

By Mr. PADGETT: A bill (H. R. 9873) granting a pension to Israel W. Bennett; to the Committee on Pensions.

Also, a bill (H. R. 9874) granting an increase of pension to Leroy B. Linzy; to the Committee on Invalid Pensions.

By Mr. POST: A bill (H. R. 9875) granting an increase of pension to William A. Morris; to the Committee on Invalid Pensions.

Also, a bill (H. R. 9876) granting an increase of pension to Sarah B. Dutton; to the Committee on Invalid Pensions.

Also, a bill (H. R. 9877) granting an increase of pension to John A. Dickey; to the Committee on Invalid Pensions.

Also, a bill (H. R. 9878) granting an increase of pension to R. J. Parkhurst; to the Committee on Invalid Pensions.

Also, a bill (H. R. 9879) granting an increase of pension to James F. Lott; to the Committee on Invalid Pensions.

Also, a bill (H. R. 9880) granting an increase of pension to Morgan H. Shealor; to the Committee on Invalid Pensions.

Also, a bill (H. R. 9881) to remove the charge of desertion from the record of Jacob Snyder; to the Committee on Military Affairs.

By Mr. RAUCH: A bill (H. R. 9882) granting an increase of pension to William Bowman; to the Committee on Invalid Pensions.

By Mr. ROUSE: A bill (H. R. 9883) granting an increase of pension to Ella C. De Ford; to the Committee on Invalid Pensions.

By Mr. STEENERSON: A bill (H. R. 9884) to amend an act entitled "An act granting an increase of pension to Marie J. Blaisdell," approved May 24, 1900; to the Committee on Invalid Pensions.

By Mr. STONE: A bill (H. R. 9885) granting an increase of pension to James H. Pemble; to the Committee on Invalid Pensions.

By Mr. SELLS: A bill (H. R. 9886) granting a pension to Samuel B. Walker; to the Committee on Pensions.

Also, a bill (H. R. 9887) granting a pension to Will M. Lillard; to the Committee on Pensions.

Also, a bill (H. R. 9888) granting a pension to Lemuel Tilley; to the Committee on Pensions.

Also, a bill (H. R. 9889) granting a pension to Robert Blevins; to the Committee on Invalid Pensions.

Also, a bill (H. R. 9890) granting an increase of pension to J. F. Bullock; to the Committee on Invalid Pensions.

Also, a bill (H. R. 9891) granting an increase of pension to John Stanton; to the Committee on Invalid Pensions.

Also, a bill (H. R. 9892) granting an increase of pension to Isaac Zimmerman; to the Committee on Invalid Pensions.

By Mr. THOMAS: A bill (H. R. 9893) granting a pension to Flen Whalin; to the Committee on Pensions.

PETITIONS, ETC.

Under clause 1 of Rule XXII, petitions and papers were laid on the Clerk's desk and referred as follows:

By the SPEAKER (by request): Petition of sundry citizens and voters of the fifth congressional district of the State of Minnesota, favoring the passage of the Kenyon red-light bill; to the Committee on the District of Columbia.

Also (by request), petition of Frederick Jansen, private, Company K, Twenty-ninth Infantry, Fort Niagara, N. Y., asking an investigation by Congress of courts-martial and everything pertaining thereto; to the Committee on Military Affairs.

By Mr. ASHBROOK: Petition of C. Wrand and five other merchants of Port Washington, Ohio, favoring a change in the interstate-commerce laws relative to mail-order houses; to the Committee on Ways and Means.

By Mr. CANTOR: Evidence to accompany bill (H. R. 9848) for the relief of the New England Steamship Co.; to the Committee on Claims.

By Mr. DALE: Petition of United Spanish War Veterans, Camp John E. McEwen, No. 6, of Duluth, Minn., favoring granting of a pension to Theodore T. Simon under bill H. R. 9112; to the Committee on Pensions.

By Mr. DOOLITTLE: Petition of business men of the fourth congressional district of Kansas favoring the passage of legislation compelling concerns selling goods direct to the consumer by mail to contribute their portion of the funds for the development of the local community, county, and State; to the Committee on Ways and Means.

By Mr. DYER: Petition of the Kansas City Motor Co., of Kansas City, Mo., protesting against the act by Congress giving three years of patent, etc., protection without cost to importers who exhibit their goods at the Panama-Pacific Exposition; to the Committee on Patents.

By Mr. FRANCIS: Petition of Division No. 103 of the Amalgamated Association of Steam and Electric Railway Employees of America, Wheeling, W. Va.; Local Union No. 73 of the American Flint Glass Workers Union, Toronto, Ohio; Local Union No. 359, Brotherhood of Teamsters, Chauffeurs, Stablemen, and Helpers of America; and the Division No. 285 of the Amalgamated Association of Steam and Electric Railway Employees of America, of Steubenville, Ohio, all favoring the passage of H. R. 1873, known as the antitrust injunction and limitation measure; to the Committee on the Judiciary.

By Mr. GALLAGHER: Petitions of Al. J. Cairo and Elizabeth Jenkins, of Chicago, Ill., favoring the passage of the seamen's bill; to the Committee on the Merchant Marine and Fisheries.

Also, petition of Local Union No. 21, United Garment Workers of America, of Chicago, Ill., favoring the passage of the seamen's bill; to the Committee on the Merchant Marine and Fisheries.

Also, petition of the Chicago Wheel & Manufacturing Co. and Solarine Co., of Chicago, Ill., favoring a revision of the Kahn law eliminating from that law all reference to patents or trademarks; to the Committee on Patents.

By Mr. GRAHAM of Pennsylvania: Memorial of the Commercial Exchange of Philadelphia, Pa., favoring the selection of Philadelphia as one of the regional reserve centers under the new Federal law; to the Committee on Banking and Currency.

By Mr. LONERGAN: Petition of the Socialist Party of Hartford, Conn., favoring the appointment of a Committee on Woman's Suffrage; to the Committee on the Judiciary.

By Mr. MAHAN: Papers in case of Albert Smith (H. R. 8572); to the Committee on Invalid Pensions.

By Mr. MacDONALD: Petition of 2,305 citizens of Houghton and Keweenaw Counties of the State of Michigan, favoring the adoption of a resolution providing for congressional investigation of the strike in the copper mines in that locality; to the Committee on Labor.

Also, memorial of board of directors of the Marquette Commercial Club of Marquette, Mich., favoring legislation providing for the ownership by the United States of buildings for its embassies and representatives abroad; to the Committee on Foreign Affairs.

By Mr. MOORE: Memorial of the Merchants and Manufacturers' Association of Philadelphia favoring Philadelphia as a regional reserve city; to the Committee on Banking and Currency.

By Mr. NEELY of West Virginia: Petition of F. L. Hickman and 144 others of Clarksburg, W. Va., favoring legislation restricting immigration; to the Committee on Immigration and Naturalization.

By Mr. REILLY of Connecticut: Petition of the Connecticut Woman's Suffrage Association, of Hartford, Conn., protesting against the use of the Hetch Hetchy Valley for the San Francisco water supply; to the Committee on the Public Lands.

By Mr. STEVENS of Minnesota: Memorial of the Current Topics Club of St. Paul, Minn., favoring the enactment of the Glass-Owen currency bill; to the Committee on Banking and Currency.

By Mr. SCULLY: Petition of the council of the borough of Sea Bright, N. J., and other citizens of the third congressional district of New Jersey protesting against the passage of the seaman bill (S. 136) to increase the equipment and size of the crews on all boats; to the Committee on the Merchant Marine and Fisheries.

SENATE.

FRIDAY, December 5, 1913.

The Senate met at 10 o'clock a. m.

Prayer by the Chaplain, Rev. Forrest J. Prettyman, D. D.

WESLEY L. JONES, a Senator from the State of Washington, appeared in his seat to-day.

The Journal of yesterday's proceedings was read and approved.

PANAMA CANAL EQUIPMENT (S. DOC. NO. 258).

The VICE PRESIDENT. The Chair lays before the Senate a communication from the Isthmian Canal Commission, transmitting, in response to the resolution of August 23, 1913, a letter from Col. Goethals, chairman of the Isthmian Canal Commission, containing information showing the amount, character, and value of construction machinery, equipment, and material which it would be possible to transfer to Alaska on the completion of the Panama Canal.

The Chair desires to direct the attention of the senior Senator from Oregon [Mr. CHAMBERLAIN] to the fact that the Isthmian Canal Commission has made a report. He desires to ask to what committee the communication shall be referred.

Mr. CHAMBERLAIN. I ask that the communication and accompanying papers be referred to the Committee on Territories, which reported the Alaska railroad bill.

The VICE PRESIDENT. The communication will be referred to the Committee on Territories and printed.

SENATOR FROM MARYLAND.

The VICE PRESIDENT. The Chair lays before the Senate a communication from the secretary of state of the State of Maryland, transmitting a certificate of the governor of Maryland showing the election of BLAIR LEE as a United States Senator from Maryland. The communication and accompanying certificate of the governor will be printed in the Record and referred to the Committee on Privileges and Elections.

The matter referred to is as follows:

EXECUTIVE DEPARTMENT,
Annapolis, Md., December 4, 1913.

To the President of the Senate of the United States,
Washington, D. C.

SIR: By direction of the governor I inclose herewith his certificate showing the election of Blair Lee as a United States Senator from Maryland to fill the unexpired term of the late Senator Isidor Rayner.

Respectfully,

ROBERT P. GRAHAM,
Secretary of State.

To the President of the Senate of the United States:

This is to certify that at an election held on Tuesday, November 4, 1913, pursuant to the law of the State of Maryland and a writ of election issued by the governor of said State in compliance with the provisions of the seventeenth amendment to the Constitution of the United States, by the electors in said State having the qualifications requisite for electors of the most numerous branch of the State legislature, Blair Lee, of Montgomery County, was by said electors duly chosen a Senator from said State in the Senate of the United States to fill the vacancy in the unexpired term of the late Senator Isidor Rayner.

That at said election, so held as aforesaid on Tuesday, the 4th day of November, 1913, the candidates for the said office of United States Senator were Blair Lee, Democrat; Thomas Parran, Republican; George L. Wellington, Progressive; Finley C. Hendrickson, Prohibitionist; and Robert J. Fields, Socialist, each of said candidates having been duly nominated in accordance with the primary election law of said State.

That the names of each of said candidates was placed upon the ballots at the said election held as aforesaid, said ballots being the official ballots for said election, held as aforesaid on Tuesday, November 4, 1913, as required by the laws of said State, and the returns from said election having been duly canvassed by the board of State canvassers of said State in accordance with law, the result of said election has been declared and certified by said board, as follows:

	Votes.
Blair Lee received.....	112,485
Thomas Parran received.....	73,300
George L. Wellington received.....	7,033
Finley C. Hendrickson received.....	2,405
Robert J. Fields received.....	2,982

all of which appears from the certified copy of the declaration of the result made by the board of State canvassers and hereto annexed, which I hereby certify to be full, true, and correct, as follows:

DECLARATION OF THE RESULT OF THE ELECTION OF 1913 FOR THE OFFICE OF UNITED STATES SENATOR.

(Made by the State board of canvassers.)

We, the undersigned, constituting a majority of the board of State canvassers of the State of Maryland, in pursuance of the power and authority vested in us under and by virtue of the provisions of section 85 of the election law, do hereby certify that at an election held in said State on Tuesday, November 4, 1913, for a United States Senator to fill the unexpired term of the late Senator Isidor Rayner, it appears from the certified copies of the returns of said election, that—

	Votes.
Blair Lee received.....	112,485
Thomas Parran received.....	73,300
George L. Wellington received.....	7,033
Finley C. Hendrickson received.....	2,405
Robert J. Fields received.....	2,982

We therefore determine and declare that Blair Lee, having received the greatest number of votes cast for the several candidates for said office, has been and is duly elected United States Senator to fill the unexpired term of the late Senator Isidor Rayner.

In witness whereof we have hereunto set our hands this 20th day of November, 1913.

ROBERT P. GRAHAM, Secretary of State.
EMERSON C. HARRINGTON,
Comptroller of the Treasury.
MURRAY VANDIVER, State Treasurer.
C. C. MAGRUDER,
Clerk of the Court of Appeals.

And I further certify that the following is a full, true, and correct copy of the writ of election aforesaid:

WRIT OF ELECTION.

To the people of the State of Maryland and to the members of the several boards of supervisors of elections of Baltimore City and the several counties of the State and to the sheriffs of Baltimore City and the several counties of the State and to the board of police commissioners for the city of Baltimore, greeting:

Whereas a vacancy now exists in the term of a United States Senator from Maryland, caused by the death of the late Senator Isidor Rayner; and

Whereas I have heretofore, by virtue of the authority vested in me by the Constitution of the United States, temporarily appointed Senator WILLIAM P. JACKSON to occupy a seat in the United States Senate "until the next meeting of the legislature" of this State:

Therefore I, Phillips Lee Goldsborough, governor of the State of Maryland, acting by and under the authority and direction contained

in the seventeenth amendment to the Constitution of the United States, hereby issue, publish, and declare this my writ of election for a special election to be held throughout the State of Maryland on Tuesday, the 4th day of November, 1913, and I do hereby direct that a special election shall be held on that day in order that there may be chosen at said election a Senator of the United States from the State of Maryland to fill said vacancy and to represent the State of Maryland in the Senate of the United States until the end of the term for which said Senator Isidor Rayner was originally elected.

And I further order, declare, and direct that the Senator to be chosen by virtue of this writ shall be nominated and elected in conformity with all the provisions of the general election laws and State-wide primary election laws of this State made and provided for the nomination and election to an office filled by the vote of all the registered voters of the State of Maryland.

To this end and as authority and direction therefor have you then and there this writ.

Witness my hand as the governor of the State of Maryland this 2d day of August, 1913, and the great seal of the State of Maryland.

[GREAT SEAL.]

By the governor:

P. L. GOLDSBOROUGH.

ROBERT P. GRAHAM, Secretary of State.

In witness whereof I, Phillips Lee Goldsborough, governor of the State of Maryland, have hereunto set my hand and caused to be hereto affixed the great seal of the State of Maryland, attested by the signature of the secretary of state, and done at the capitol in the city of Annapolis this 4th day of December, in the year of our Lord 1913.

[SEAL.]

By the governor:

P. L. GOLDSBOROUGH.

ROBERT P. GRAHAM, Secretary of State.

PETITIONS AND MEMORIALS.

Mr. THOMPSON. I present a letter, signed by the chairman of the Kansas Yearly Meeting of Friends, favoring the wise and righteous course the administration has taken in maintaining an attitude of peace and friendship toward Mexico during the recent and now pending troubles. I should like to have the letter read at the desk and ask that it be referred to the Committee on Foreign Relations.

There being no objection, the letter was read and referred to the Committee on Foreign Relations, as follows:

FRIENDS UNIVERSITY,
Wichita, Kans., October 10, 1913.

To His Excellency the President of the United States and to the Hon. William J. Bryan, Secretary of State, and to the Senators from Kansas and Oklahoma:

We, the members of the Society of Friends of Kansas and Oklahoma, in our yearly meeting assembled, desire to express to you our highest appreciation of the wise and righteous course the administration has taken in maintaining an attitude of peace and friendship toward Mexico during the recent and now pending troubles. We believe that any other course would in all probability lead to unrighteous war and wicked bloodshed, and we highly commend the President and those associated with him in withstanding the pressure for intervention. Your faithfulness has doubtless prevented the shedding of much blood and lasting unfriendly relations between the two nations.

On the other hand, we regret to learn through the press of the proposition to spend \$148,000,000 in building battleships and in other military enlargement. The rivalry between the nations in building great navies, which they protest they do not mean to use, we regard as a foolish, wasteful, and wicked policy that has been outgrown by our Christian civilization.

Would not \$1,000,000 spent in developing a spirit of brotherhood among the nations be a better defense than the expenditure of a hundred million on forts and battleships? "Public sentiment is mightier than the armies of Empires." Let our Nation build a sentiment of brotherhood rather than more battleships.

We desire to call attention to the seemingly forgotten fact that the last Hague conference adopted 13 "conventions," which are, in fact, 13 international laws, the sixth of which says, "No army or navy shall attack an unfortified coast or town."

This should make the United States immune from attack. But, better still, we have no enemy in the world that wants to attack us. Then, why build a larger Navy? The one we have is larger than we need.

In the spirit of brotherhood and good will we ask the President and those in national authority to consider these things. We ever pray the blessing of God upon you.

Signed by order of Kansas Yearly Meeting of Friends.

EDMUND STANLEY, Chairman.
HENRY H. TOWNSEND, Clerk.

Membership, 12,000; in Oklahoma, 3,000.

Mr. THOMPSON presented the petition of R. T. Keefe and sundry other citizens of Arkansas City, Kans., praying that early action be taken on the pending currency bill, which was ordered to lie on the table.

Mr. WEEKS presented a petition of the congregation of the Providence Methodist Episcopal Church, of Easthampton, Mass., and a petition of the congregation of the First Methodist Episcopal Church of Northampton, Mass., praying for the passage of the so-called antipolygamy bill, which were referred to the Committee on the Judiciary.

He also presented the memorial of Robert J. Fuller, superintendent of schools, and sundry teachers of North Attleboro, Mass., and a memorial of sundry citizens of Marlboro, Mass., remonstrating against the passage of the so-called Hetch Hetchy bill, which were ordered to lie on the table.

Mr. GALLINGER presented a resolution adopted by the Commercial Club of Keene, N. H., favoring the enactment of legisla-

tion providing flood protection for the lower Mississippi Valley, which was referred to the Committee on Commerce.

SAN FRANCISCO WATER SUPPLY.

Mr. ASHURST. Mr. President, I have received upward, I should say, of 4,000, or at least 3,500, communications with reference to the so-called Hetch Hetchy bill. I have this morning a number of letters and telegrams on this subject. I shall not ask that the letters be incorporated into the RECORD, but as the telegrams are from citizens whose judgment I value I desire to incorporate the telegrams into the RECORD. First, I ask that there be read a telegram from Hon. F. A. Jones, a member of the corporation commission of the State of Arizona, urging me to vote for the bill. When Mr. Jones was a candidate for the position of corporation commissioner in the State of Arizona in 1911, various corporations in Arizona pursued the same tactics the Spring Valley Water Works Co. is now pursuing in attempting to defeat the Hetch Hetchy bill and spent several thousands of dollars in trying to defeat Mr. Jones. I ask that the telegram be read at the desk.

The VICE PRESIDENT. Is there objection? The Chair hears none, and the Secretary will read as requested.

The Secretary read the telegram, as follows:

PHOENIX, ARIZ., December 4, 1913.

Senator HENRY F. ASHURST,
Washington, D. C.:

A resident of 20 years in California and complete knowledge of San Joaquin Valley, Hetch Hetchy, and San Francisco conditions induce me to urge that you vote for bill. Make contents of this wire known to Senator SMITH and to the New Mexico Senators.

F. A. JONES.

Mr. ASHURST. Mr. President, I request that there also be incorporated into the RECORD a telegram from a gentleman who was for 20 years a citizen of Arizona, who was always interested in promoting the general good and not "special interests." He removed from Arizona to Los Angeles some years ago and is there a respected and useful citizen of the State of California. I ask that a telegram from that gentleman, Mr. Max Salzman, be incorporated in the RECORD and read at the desk.

The VICE PRESIDENT. Is there objection? The Chair hears none, and the Secretary will read as requested.

The Secretary read the telegram, as follows:

LOS ANGELES, CAL., December 4, 1913.

Hon. H. F. ASHURST,
Senate, Washington, D. C.:

The passage of the Hetch Hetchy bill is of vital importance to all California, and I earnestly urge you as representatives of sister States to vote in favor of the Hetch Hetchy bill.

MAX SALZMAN,
President Salzman Co.

Mr. ASHURST. Mr. President, Mr. Salzman has a son who was born in Arizona. After he removed to the city of Los Angeles he became one of the successful lawyers of his city. He is a young gentleman for whom I predict a very useful and successful career. I value his opinion highly, and I ask that his telegram be read at the desk.

The VICE PRESIDENT. Is there objection? The Chair hears none, and the Secretary will read as requested.

The Secretary read the telegram, as follows:

LOS ANGELES, December 4, 1913.

Hon. HENRY F. ASHURST,
Senate, Washington, D. C.:

Permit me to suggest that Hetch Hetchy bill should receive your serious consideration, the probabilities being that San Francisco is justified in its demand and no doubt in need of a greater water supply.

MAURICE SALZMAN,
Treasurer Arizona State Society.

Mr. ASHURST. I now present a telegram from the mayor of Los Angeles, and request that his telegram be read.

The VICE PRESIDENT. Is there objection? The Chair hears none, and the Secretary will read as requested.

The Secretary read the telegram, as follows:

LOS ANGELES, CAL., December 4, 1913.

Hon. H. F. ASHURST,
Senate, Washington, D. C.:

Los Angeles asks you as a true friend of California to vote for the Hetch Hetchy bill and thus give to the people of San Francisco their rights to a pure abundant supply of water free of control by a private monopoly, which is striving to defeat the will and welfare of the citizens of a great city.

H. H. ROSE,
Mayor of Los Angeles.

Mr. ASHURST. I further present a telegram from a prominent citizen of the State of California, who, for more than 20 years, was a commercial traveler down through the Southwest. He was a "traveling man" in the early days, before we possessed the railroad facilities we now have, and when traveling was not so pleasant as it now is. This gentleman urges me to vote for the pending bill, and I ask that his telegram be read at the desk.

The VICE PRESIDENT. Is there objection? The Chair hears none, and the Secretary will read as requested.

The Secretary read the telegram, as follows:

LOS ANGELES, CAL., December 4, 1913.

Hon. H. F. ASHURST,
United States Senate, Washington, D. C.:

Inasmuch as pure water in abundance is the life of a great city, it is the duty of every public-spirited citizen of this and every other State to urge you to do everything possible to secure a water supply for San Francisco. Knowing you to be a friend of California and that there is much in common between California and your State, as a citizen of Los Angeles I earnestly urge you to vote for the Hetch Hetchy bill.

JOHN S. MITCHELL,
Hotel Hollenbeck, Los Angeles.

Mr. ASHURST. I now present sundry other telegrams.

The VICE PRESIDENT. Does the Senator desire that they be inserted in the RECORD?

Mr. ASHURST. I ask that they may be inserted in the RECORD without reading.

There being no objection, the telegrams were ordered to be printed in the RECORD, as follows:

LOS ANGELES, CAL., December 4, 1913.

Hon. H. F. ASHURST,
Senate, Washington, D. C.:

The Hetch Hetchy water project for San Francisco is worthy of serious consideration and deserving of your vote. It is wanted by all California residents to provide and care for the requirements of the present and rapidly increasing population of San Francisco.

W. W. WOODS,
Vice President Citizens' National Bank of Los Angeles.

LOS ANGELES, CAL., December 4, 1913.

Hon. H. F. ASHURST,
Senate, Washington, D. C.:

California and its citizens urge you to vote for the Hetch Hetchy bill and give San Francisco its much-needed water. As representative of a sister State, we know you will appreciate the vital necessity of a pure-water supply, and we trust you will give us your aid by voting in favor of this bill.

H. S. MCCALLUM,
President Federated Improvement Association of Los Angeles.

LOS ANGELES, CAL., December 4, 1913.

Hon. H. F. ASHURST,
Senate, Washington, D. C.:

It is the earnest wish of the people of southern California that you, as representative of sister State, vote for the Hetch Hetchy bill which will give San Francisco its essential water supply. I earnestly urge you to do a great public good by voting for the bill.

JAMES R. H. WAGNER,
President of the James R. H. Wagner Co.

SANTA ANA, CAL., December 4, 1913.

HENRY ASHURST,
Senate, Washington, D. C.:

I believe it would be wise to give San Francisco privileges wanted in Hetch Hetchy Valley, and urgently request you to vote for bill giving San Francisco concessions asked.

W. A. ZIMMERMAN,
President Associated Chambers of Commerce of Orange County,
and President Santa Ana Savings & Trust Co.

LOS ANGELES, CAL., December 4, 1913.

HENRY F. ASHURST,
Senate, Washington, D. C.:

Respectfully urge your favorable consideration Hetch Hetchy bill. Overwhelming majority people of California favor measure. Is of State-wide importance. Opposition to it is generally regarded as emotional, based on misinformation or inspired by selfish motives. Earnestly ask your help for San Francisco as the paramount interest.

700,000 BOOSTER CLUB OF SOUTHERN CALIFORNIA.
ALBERT CHAPPELLE, Secretary.

LOS ANGELES, CAL., December 4, 1913.

Hon. HENRY F. ASHURST,
Washington, D. C.:

Los Angeles, with water from the Sierras now within her gates, earnestly requests you to aid the future greatness of San Francisco. Your vote and help for the Hetch Hetchy bill will do this. May we count on you?

ROBT. MARSH,
President Robt. Marsh Co.

LOS ANGELES, CAL., December 4, 1913.

Hon. HENRY F. ASHURST,
Washington, D. C.:

Your earnest support of the Hetch Hetchy bill is besought by southern California in unison with San Francisco as one of the best means of assuring prosperity to California and the Southwest. Please vote and work for its immediate passage.

ARTHUR LETTS,
Pres. Retail Dry Goods Assn.

LOS ANGELES, CAL., December 4, 1913.

Hon. HENRY F. ASHURST,
Washington, D. C.:

California, with whose interests Arizona's are vitally linked, wants immediate passage for the Hetch Hetchy bill. Please give us your active help and vote for the Hetch Hetchy bill.

ROBERT A. ROWAN,
President R. O. Rowan Co., Los Angeles.

Hon. HENRY F. ASHURST,
LOS ANGELES, CAL., December 4, 1913.
Washington, D. C.:

Southern California united with north in urging the speedy passage of the Hetch Hetchy bill, that San Francisco's immediate wants and future needs may be provided for. Its enactment will tend to greater prosperity for the coast and southwest. We earnestly urge you as representative of our sister State to vote for it.

ROGER M. ANDREWS.

Senator H. F. ASHURST,
LOS ANGELES, CAL., December 4, 1913.
Washington, D. C.:

For the great benefit of more than a million Californians in and about San Francisco, and for the benefit of the State at large, it is imperative that the Hetch Hetchy bill be passed, and Californians urgently request that you, the representative of our sister State, vote in favor of this bill.

COL. E. S. ORMSBY,
President of the Federated State Societies of Los Angeles.

Senator ASHURST,
ALHAMBRA, CAL., December 4, 1913.
Washington, D. C.:

Gentlemen, please lend every assistance consistent with the national policy to secure this Hetch Hetchy for San Francisco.

GEO. W. CAMERON,
President Board of Trustees of Alhambra.

Senator ASHURST,
ALHAMBRA, CAL., December 4, 1913.
Washington, D. C.:

California looks to you for favorable influence in the Hetch Hetchy project and will certainly appreciate such generous actions.

ROBERT JORDAN,
President Chamber of Commerce of Alhambra.

Senator ASHURST,
ALHAMBRA, CAL., December 4, 1913.
Washington, D. C.:

San Francisco is entitled to an adequate water supply, and the Government in granting to that city the Hetch Hetchy Basin would be practically following its recent policy toward Los Angeles.

NEWTON W. THOMPSON,
Senator Thirty-first District of California.

Senator ASHURST,
ALHAMBRA, CAL., December 4, 1913.
Washington, D. C.:

If the Hetch Hetchy Valley is necessary to the welfare and prosperity of San Francisco, I am heartily in favor of its acquisition by that city.

MRS. HARRY E. ROSE,
President of Women's Club.

Senator ASHURST,
RIVERSIDE, CAL., December 4, 1913.
United States Senate, Washington, D. C.:

The crying need of city of San Francisco for an adequate water supply is imperative. I do not consider that the building of a storage reservoir in the Hetch Hetchy will destroy the valley's natural beauty, but several hundred thousand human beings will be cared for.

J. R. GABBERT,
Editor Riverside Enterprise.

Senator ASHURST,
RIVERSIDE, CAL., December 4, 1913.
United States Senate, Washington, D. C.:

I believe with all lovers of nature that our national parks and beauty spots should receive all reasonable and proper protection from the Nation. I think, however, that municipal water needs are paramount, even to beauty, and therefore urge granting Hetch Hetchy reservoir site to San Francisco under all reasonable and proper restrictions.

WILLIAM L. PETERS,
Mayor, City of Enterprise.

Senator H. F. ASHURST,
PASADENA, CAL., December 4, 1913.
Washington, D. C.:

Feeling it is to the best interests of not only San Francisco and California, but to the entire Southwest as well, we urge you to do your utmost to secure the passage of the Hetch Hetchy bill and give to San Francisco the water supply that rightly belongs to the people of that city.

D. M. LINNARD,
Manager Maryland and Huntington Hotels, Pasadena, Cal.

Mr. ASHURST subsequently said: Mr. President, I had incorporated into the CONGRESSIONAL RECORD this morning sundry telegrams from citizens of Arizona and California urging me to vote for the Hetch Hetchy bill. I ask permission now to have read at the desk a telegram from Hon. Reese M. Ling, of the State of Arizona, a gentleman of wide information, and who is the Democratic national committeeman for the State.

The PRESIDING OFFICER. Is there objection? The Chair hears none, and it is so ordered.

The Secretary read the telegram, as follows:

Senator H. F. ASHURST,
PHOENIX, ARIZ., December 4, 1913.
Washington, D. C.:

The importance to the city of San Francisco of securing the right to the Hetch Hetchy water supply can not be overstated. It is the only method of relieving the monopolistic control of its water supply. Should the right to this water be denied them the opportunity to secure

municipal ownership of its water supply will be prevented. Knowing your desire to be of service to the people in every possible manner, I feel your support of San Francisco's right will be forthcoming, and I trust I do not presume too greatly in requesting that you give it your support.

REESE M. LING.

Mr. GRONNA. Mr. President, I also have received some letters from citizens of San Francisco, asking me to support the Hetch Hetchy bill, which I ask may be read.

The VICE PRESIDENT. Is there objection? The Chair hears none, and the Secretary will read as requested.

The Secretary read the letters, as follows:

75 SUTTER STREET,
San Francisco, November 14, 1913.

Senator GRONNA,
Washington, D. C.

DEAR SENATOR: I note by the daily papers that you are opposed to the granting of the Hetch Hetchy water right to the city of San Francisco.

As one of your countrymen, I appeal to you in behalf of the many thousand Norwegians residing in this city to favor this grant.

If you know how sadly the city of San Francisco needed this right, you would certainly favor our city. Why not give San Francisco what Los Angeles, Portland, and Seattle have received from the Federal Government in the shape of water rights?

Trusting that you will give this your favorable consideration, I have the honor to remain,
Yours, respectfully,

J. R. DONALDSON.

Hon. A. J. GRONNA,
Washington, D. C.:

The undersigned organizations, composed of Swedish residents of the city of San Francisco, appeal to you as Senator from the State of North Dakota, where a large number of men and women of our nationality are numbered among your constituents, to lend your active support to the bill granting San Francisco necessary water rights in the Hetch Hetchy Valley. It is absolutely essential to the future welfare of the city that the bill be passed when it comes before the United States Senate in December.

Our need is imperative. No sound arguments have been advanced against devoting this water supply to its highest possible use—to provide the people of a large city with a pure and adequate supply of water and to insure the city against any possible recurrence of a water shortage, which now threatens.

Hetch Hetchy is the only adequate available water supply to which San Francisco can turn. Suggested alternative supplies are either inadequate or involve an expenditure of money which the city can not at this time meet, due to the heavy financial burden the city is now bearing as a result of restoring public buildings and public works destroyed in the fire of 1906.

The construction of the proposed dam will not mar the beauty of the valley, but will rather enhance it by placing there a beautiful lake and building roads, which will make accessible a region now visited only by a few hardy camping parties.

We earnestly request you to help us.

THE WORLD'S FAIR COMMITTEE OF THE SWEDISH-AMERICAN PATRIOTIC LEAGUE OF CALIFORNIA,

Per ALEX. OLSSON, Secretary.

THE SWEDISH SINGING SOCIETY,

Per CARL MOLLER, Secretary.

THE UNITED SWEDISH SINGERS OF THE PACIFIC COAST,

Per LAMBERT GAISLOW, Secretary.

THE SWEDISH SOCIETY OF SAN FRANCISCO (ORGANIZED 1875),

Per HARRY MENTZER, Secretary.

THE SWEDISH-AMERICAN PATRIOTIC LEAGUE OF CALIFORNIA (INC.),

Per KARL SWANSON, Secretary.

ODIN LODGE (ODD FELLOWS, No. 393),

Per J. JOHNSON, Secretary.

Mr. KERN. I send to the desk a telegram in the nature of a memorial, which I ask to have read.

The PRESIDING OFFICER. In the absence of objection, the Secretary will read as requested.

The Secretary read the telegram, as follows:

MODESTO, CAL., December 4, 1913.

Hon. J. W. KERN,
Congress Hall, Washington, D. C.:

I am from Indiana. Invested heavily here. Will be ruined if Raker bill passes.

G. P. AYRES.

Mr. KERN. Mr. President, I send to the desk three telegrams in the nature of memorials, which are samples of perhaps a hundred that I have received recently from former citizens of Indiana who have settled in the San Joaquin Valley. I desire to say in this connection that, while my mind is open as to the passage of this bill, I must be convinced that the rights of these people will not be substantially prejudiced before the bill shall have my support. I ask for the reading of the three short telegrams.

The VICE PRESIDENT. In the absence of objection, the Secretary will read as requested.

The Secretary read the telegrams, as follows:

MODESTO, CAL., December 4, 1913.

Hon. JOHN W. KERN,
Senate, Washington, D. C.:

Formerly from Indiana. Hundreds others here from our State. Raker bill will do us untold damage. I have invested my all and in debt. Will be ruined. Please do all in your power to save us.

J. W. DEARDORFF.

MODESTO, CAL., December 4, 1913.

Hon. J. W. KERN,
United States Senator, Congress Hall Hotel, Washington, D. C.:

Am one of your own people. Many located here from Indiana. Have built good homes; invested our all. Raker bill will do us untold damage. Have used all entire river last two years. Will you protect our homes?

S. S. KELLER.

MODESTO, CAL., December 3, 1913.

Hon. JOHN W. KERN,
United States Senate, Washington, D. C.:

Sentiment in whole San Joaquin Valley is strong against Raker bill or any bill having for its object the taking of any water out of the valley. All the water is absolutely needed for irrigation use here. With water taken to San Francisco under Raker bill, large territory in valley will forever be left arid and unproductive. San Francisco has other and equally good sources of supply. We earnestly request you to oppose bill.

T. J. WISECARVER,
Chairman Democratic County Central Committee.

Mr. STONE. Mr. President, I desire to have a telegram read in this connection.

The VICE PRESIDENT. Is there objection? The Chair hears none, and the Secretary will read as requested.

The Secretary read the telegram, as follows:

MODESTO, CAL., December 4, 1913.

Hon. WILLIAM J. STONE,
Washington, D. C.:

Blood is thicker than water, particularly Hetch Hetchy water. California valleys are settled by Missourians, who have made them blossom as the rose. Stanislaus is leading dairy county of coast. Water users unanimous against any bill aiming to deprive them of water. Raker bill is not party measure. It is a power grab. Stand by your brothers and defeat it.

T. BRAMHALL,
Editor Alfalfa.

Mr. PERKINS. Mr. President, I desire to present to the Senate statements of prominent citizens of California and editors of leading newspapers of that State urging the passage of the so-called Hetch Hetchy bill. A few of those who indorse the bill are:

Hon. William J. Bryan, Secretary of State.
Hon. Franklin K. Lane, Secretary of the Interior.
Hon. David F. Houston, Secretary of Agriculture.
Hon. CHAMP CLARK, Speaker of the House.
Dr. Rupert Blue, Surgeon General of the United States.
Charles J. Pack, president of the Conservation Association.
Dr. George Otis Smith, Chief of the United States Geological Survey.
Hon. Gifford Pinchot, former Chief Forester and father of conservation.
Jane Addams, of Hull House.
Mrs. John A. Logan.
Mrs. Phoebe A. Hearst.
The president of the University of California.
The president of Leland Stanford University.
The women's clubs of California.
Henry S. Graves, United States Chief Forester.
The members of the Senate Committee on Public Lands, unanimously.
The members of the House Committee on Public Lands, unanimously.
The Members of the House of Representatives, by a vote of 183 yeas to 43 nays.
Hiram W. Johnson, governor of California and recently candidate for Vice President.
James Rolph, Jr., mayor of San Francisco.
Edward Robson Taylor, former mayor of San Francisco, who was appointed and subsequently reelected to succeed Ruef-Schmitz régime.
James D. Phelan, former mayor of San Francisco.
Rudolph Spreckels, San Francisco, who carried on the graft prosecution.
Francis J. Heney, who prosecuted the grafters.
Hon. George C. Pardee, former governor of California, now chairman of the conservation commission of that State.
Hon. James R. Garfield, former Secretary of the Interior.
The American Federation of Labor.
The California State Federation of Labor.
The Chamber of Commerce of San Francisco.
The Native Sons of California.
The Native Daughters of California.
Col. John Biddle, Col. Spencer Cosby, Col. Harry Taylor, United States Army engineers.
John R. Freeman, noted hydraulic engineer.
The mayors and other officials of Oakland, Berkeley, Alameda, Richmond, San Jose, Palo Alto, and other municipalities around San Francisco Bay.
W. F. McClure, State engineer of California.
Hon. Victor Metcalf, ex-Secretary of the Navy.

I do not care to take the time of the Senate in having these statements read, and I ask that they lie on the table and be printed in the RECORD.

There being no objection, the statements were ordered to lie on the table and to be printed in the RECORD, as follows:

This is what Director of the Geological Survey George Otis Smith said before the House Public Lands Committee, June 25, 1913:

"Hetch Hetchy Valley must eventually be made into a reservoir.
"Now, I believe it can be stated that the sooner that dam site is actually used, the sooner that reservoir is utilized, the better, under the plan as set forth in the provisions of this bill, and I believe that from the standpoint of economics the plan will appeal to you by reason of the fact that the cost of storage will be assessed not only upon irrigation interests, but equally, if not to a larger extent, upon municipal water and municipal power. In this way there will be a division of the whole initial cost of storage. I think that in this way practical conservation will be secured for to-day, and it will leave opportunities for such extension of this utilization in the future as will be necessary to meet future conditions."

BEST FOR ALL CONCERNED.

"There remains the question, leaving the question of the largest utilization, whether the provisions of the present bill are adequate to protect all interests and to recognize all equities. There are three parties, it seems to me, to this proposition. San Francisco, by reason of its claim for the highest use of the water; the Turlock-Modesto irrigation districts, by reason of their prior use and their actual dependence upon the Tuolumne watershed for their water; and, thirdly, the general public, which is interested in the full utilization of our water resources here as elsewhere and also interested by reason of special rights which they have in the national parks.

"I believe that the citizens of San Francisco and the other bay cities will receive pure water from the cheapest source, and they will also receive municipal power at a low price.

"The irrigation interests, with their prior rights, are assured under the terms of this bill of a larger supply than they at present have upon what seems to me to be absolutely equitable terms.

"The third party to this contract in the form of legislation is the general public. The visitors to the park, if this plan is carried out, will have the northern part of the Yosemite National Park made more accessible, if not indeed also more attractive. And right there I would say that, in my opinion, natural beauty has little value unless there is the human eye to see it.

PRESENT AND FUTURE PROTECTED.

"To sum up, the proposed legislation appears to me to serve present needs without in the least compromising the future needs. If we look ahead, there is also in this project some future possibilities of general benefit to the public, and not the least of these benefits will be the increased degree in which these national playgrounds of the high Sierras will be made more attractive to the general public, because they will be more accessible."

James R. Garfield, in testifying before the House committee hearing on January 9-12, 1909, stated:

"My personal feeling is with the very highest public interest, and the highest use to which the water can be put is the domestic water supply of a great city.

"Some of these gentlemen are urging the first public interest, namely, that of natural beauty—the desire to keep this open as the playgrounds and parks for the people for camping.

"I say that those interests ought always to give way to the highest interests of domestic use.

"Of what importance is it, gentlemen, that 100, 200, 3,000, or 10,000 men who are able to spend their vacations camping should have this water supply if it is needed for the hundreds and thousands and the millions of men, women, and children who are in the great cities in and about San Francisco, who have no opportunity to take vacations, who have no opportunity to get out into the country and enjoy the privileges of camping and seeing these natural beauties?

"Without doubt the city can obtain water from half a dozen other sources, which are now owned by private interests—by the interests that are trying to sell their supply to the city. And those same private interests have seriously opposed the Government giving the city the right, because it would preclude their selling their interests to the city."

Mr. Allen Hazen is one of the most noted experts on city water supplies in America. He was in charge of the Massachusetts State Experiment Station, 1880-1893; had charge sanitary engineering Chicago exposition; author standard work on filtration of public water supplies; designed filtration plant for Washington, D. C., and many other cities.

"It can not be stated too emphatically that the use of the Tuolumne water by San Francisco will not involve a sacrifice to the public of any part of the Yosemite National Park. The opposite statement, persistently and erroneously made, is unfounded and unwarranted.

"All that will be required and all that can be required under the stipulations that have been made is that visitors shall not pollute the waters of the tributary streams.

"As the waters of these streams are the main, and, in fact, almost the sole, source of water supply for the visitors to the park, it is essential for the welfare of the visitors themselves that the waters of these streams should not be polluted.

"Regulations now in force in the Yosemite Park are intended to accomplish this result.

"With the system of water supply as proposed by Mr. Freeman in operation, any pollution of the tributary streams in the park would represent a hundred times greater danger to campers drinking from the streams than to the people of San Francisco who would use the water.

"The measures necessary for the protection of the campers in the Yosemite National Park, and now in force, are all that are required to protect the people who will use the water from the proposed water supply system. In fact, the regulations necessary to protect campers are more than ample for protecting the water supply.

"I also take this opportunity of expressing my view that the construction of a permanent lake in the Hetch Hetchy Valley will add to the beauty and usefulness of the park. Every place where there is water is a center of attraction. To build a lake in a valley which will be larger and more beautiful than any natural lake in the park will add a new and important center of interest; and when it is realized that this lake will be made accessible by an automobile road, will be open for boating in summer and skating in winter, and that no restrictions will grow out of the use of all the tributary area that are not necessary for visitors on their own account, the increased usefulness of the park growing out of this development is apparent."

Mr. William Mulholland, chief engineer of the Los Angeles Aqueduct, which has just been completed, and which supplies Los Angeles with a pure water supply from the Sierras, says:

"Let San Francisco have water from the Sierra Nevadas, and have it at once.

"The whole State is with her in this fight, and none more heartily than we Los Angeles people, who are now testing the blessings of six years spent in bringing an uncontaminated water supply from the snow-capped Sierras.

"San Francisco's only opposition in this fight has been a coterie of alleged nature lovers, who have cried out against the desecration of one or two little lakes far back in the mountains.

"Those who know the Sierras know that these 'nature lovers' are not sincere in their objections, and it is hoped that an opposition based on selfish design and voiced by ignorant sentimentalism will not prevail in the Senate. San Francisco's water problem is a very serious one. That city's present supply is barely adequate. There will be a shortage in the future unless additional water is developed.

"It is incredible that the Senate will give San Francisco a setback by refusing so reasonable a request."

Of the board of Army engineers who reported in favor of the Hetch Hetchy project as against all others, Col. John Biddle, now in Washington, was the senior officer.

In reply to a request from the city engineer of San Francisco for a special statement of his reasons for selecting Hetch Hetchy as against all the projects proposed, which were given a year and a half of examination, Col. Biddle referred to his testimony before the House Committee on Public Lands, writing as follows:

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF STAFF,
Washington, November 29, 1913.

Mr. M. M. O'SHAUGNESSY,
City Engineer, San Francisco, Cal.

DEAR SIR: In answer to your verbal request for a statement by me, as senior member of the Board of Army Engineers, on the question of the sufficiency of information obtained by this board, I would invite attention to parts of my testimony before the committee of the House of Representatives. From this testimony, taken in connection with the report of the board, it may be stated that the board considered it had sufficient information to pass upon the questions submitted to the board, and nothing has been since submitted that would lead to a change of opinion on this point.

Very respectfully,

JOHN BIDDLE,
Colonel, General Staff, Senior Officer Board of Army Engineers.
EMPHATIC IN DIRECTNESS.

The colonel's statements before the House committee were emphatic in their directness and fully indorse the desires of San Francisco and the bill now under consideration. Here are some paragraphs from his striking testimony.

"The board took into consideration all possible sources of water supply.

"The Hetch Hetchy supply is estimated to cost \$77,000,000, spread over a number of years. The second and third sources are estimated to cost from \$97,000,000 to \$99,000,000.

"Mr. TAYLOR of Colorado. If you know any reason why we should pass this bill, tell us that reason.

"Col. BIDDLE. The reason why you should is that San Francisco has to have the water; that is a perfectly practicable way and by far the most economical way. * * * The power development in the Hetch Hetchy is greater than it is at any other source of supply. There is no question in my mind that the Hetch Hetchy is the best water supply for San Francisco, and that it is the most economical that can be obtained; it can be obtained more promptly and is better in every way.

"The CHAIRMAN. With the information before you, coupled with the results of these two investigations, if you were a member of this committee, having due regard for the rights of the irrigation people and having due regard for the rights of the nature lovers, who believe that you should not interfere with the Yosemite National Park, and having due regard for the needs of San Francisco, which system would you vote for?

"Col. BIDDLE. I would vote for the Hetch Hetchy system.

"The CHAIRMAN. You would vote for the Hetch Hetchy system?

"Col. BIDDLE. Yes, sir.

"The CHAIRMAN. Would you feel, in casting a vote of that kind, that you had inflicted a greater wrong upon the irrigation people and the nature lovers than if you voted for one of the other systems?

"Col. BIDDLE. No, sir."

Col. Harry Taylor, Corps of Engineers, United States Army, was a member of the Corps of Engineers detailed by President Taft in 1910 to investigate all California water sources for San Francisco under act of Congress. Here follows the statement he made before the House Public Lands Committee:

"There is not the slightest question in my mind but that this Hetch Hetchy should be used as the source of water supply, and not only that, but that it will be used as a water supply in a very short time independently of whether this project is adopted or not. I think that the pressure will be so great to conserve the water up there that it will be used as a storage reservoir. It is by far the best storage reservoir in that section of the country, and water is so valuable up there that they can not afford to let it run to waste. If you deny the use of it to San Francisco, sooner or later the water will be put to other uses. Somebody will be asking for permission to utilize the Hetch Hetchy Valley as a storage reservoir for irrigation purposes. This water will certainly be used for the city of San Francisco or for irrigation purposes."

Maj. William T. Litterbrant, acting superintendent of the Yosemite National Park, is also heartily in accord with San Francisco's project for the utilization and beautification of the mountain gorge.

VISIONARY IDEALS BLOCKED.

He reported from Yosemite to Secretary Lane as follows, under date of October 19 last:

"Sir: I beg to acknowledge the receipt of your letter of August 12, inclosing copy of letter and newspaper clipping from the New York Times on the Hetch Hetchy controversy, the author of both inclosures being Robert Underwood Johnson. The reply to your letter has been delayed, due to the fact that I had never been in the Hetch Hetchy Valley and no opportunity occurred to visit there until recently. I have just returned from there.

MUCH OVERATED CLAIMS.

"It is believed by me that the Hetch Hetchy Valley as a scenic attraction is much overrated.

"In the lower portion of the Hetch Hetchy Valley there is a depression in which the flood waters settle, forming a lake, which annually disappears through evaporation.

"No fish get in this lake, and it becomes a breeding place of mosquitoes, so that the people who visit the Hetch Hetchy during the spring and summer or live there are obliged to wear nets and gloves.

"The water in this lake, judging from the shore marks, stands at about 8 feet deep when its connection with the river is severed, due to receding waters.

"There are other valleys in the park that are just as interesting for the tourist who might wish to gain access to them, either mounted or afoot. These canyons are, notably, Jack Main Canyon, Kerrick Canyon, Stubblefield Canyon, Benson Lake, Matterhorn Canyon, and Virginia Canyon. The Grand Canyon of the Tuolumne is now accessible by a wagon road, namely, the Tioga Road, but there is no evidence that any

people avail themselves of this road to visit any of the scenic wonders in the eastern portion of the park.

"The length of the road from Hog Ranch to the floor of the Hetch Hetchy Valley will be about 10 miles, 5 miles of it being through rock cutting. No estimate of this work has been made, but from our experience in rock cutting here it is believed that this road can not possibly be constructed for less than \$150,000, whereas \$250,000 would probably be more near its ultimate cost. It is believed that no circumstance or emergency would at present justify this expenditure, especially when that sum, if expended on the roads of and the approaches to the Yosemite Valley and the trails of the park, would place within reach of all the people a greater number of and more interesting attractions than the same sum if expended on the construction of a wagon road that would make the Hetch Hetchy Valley accessible by wagon transportation.

"There is already an excellent saddle-horse trail from the Hog Ranch to the floor of the Hetch Hetchy, and out of it in three different directions. Furthermore, it is believed that if the city of San Francisco constructs a reservoir in that valley and a wagon road around it on one of the upper benches of the bluffs that the charm of the location will be enhanced rather than injured.

SAN FRANCISCO'S OFFER.

"In case the city of San Francisco secures this right I am assured that it will construct a wagon road from the Hog Ranch, the steepest grade being 4 per cent, that will make this location accessible. The beholder will then observe not a mosquito-infested valley, but a beautiful mountain lake surrounded by vertical cliffs, from the road around which the gorges north and east of the Hetch Hetchy, not now easily accessible, will be more easily within reach.

"The undersigned does not believe that any person is deterred from visiting the Hetch Hetchy through the difficulty of the approach, nor is it believed that good hotel accommodations in there would present a sufficiently attractive feature to cause a larger flow of travel. At any rate, the difficulties at present encountered in securing better hotel accommodations in this valley do not justify any efforts being made by the Government to establish hotel accommodations in a place where the mosquito plague is so objectionable, and, if made, the probability is that no capital could be interested in a project the conditions surrounding which would doom the venture to failure in advance.

"It is therefore recommended that no action be taken toward the construction of the road, as advocated by Dr. Johnson.

Very respectfully,

WM. T. LITTERBRANT,
Major, First Cavalry, Acting Superintendent."

The League of California Municipalities, representing all the cities and chief towns of the State, has given the Hetch Hetchy project the following enthusiastic indorsement, the resolutions being adopted at a largely attended State convention of the league in Venice, Los Angeles County:

Whereas there is now pending in the Senate of the United States a bill known as the Raker act, which measure has already passed the House of Representatives; and

Whereas said Raker act is a grant from the United States to the city and county of San Francisco and the other cities on San Francisco Bay, wherein the subject of the grant is reservoir sites in the Hetch Hetchy Valley, Cherry River Valley, and Lake Eleanor Basin, said sites to be used for the purpose of supplying water to the communities around San Francisco Bay; and

Whereas the needs of San Francisco and adjoining cities are such that immediate relief is necessary to insure adequate supplies of water for domestic purposes: Therefore be it

Resolved, That the League of California Municipalities, representing 185 cities and towns, in its sixteenth annual convention assembled in the city of Venice, does hereby approve the said Raker bill, and respectfully urges its passage in the Senate of the United States.

I hereby certify the foregoing to be a true copy of a resolution adopted by the League of California Municipalities October 10, 1913.

H. A. MASON, Secretary.

Joseph Sailer, mayor of Oxnard: "The Hetch Hetchy bill is of interest to all California. I have always been in favor of the passage of the bill, and I am still of that opinion. The people of the city have a right to the water that other people are not using."

C. W. Holbrook, mayor of Venice: "To San Francisco belongs just what she is seeking, and that is a pure and adequate supply of water from the Sierras, and if the city is going to allow private interests to prevent them from getting it they are going to allow a blot to be placed on the good name of their city that time alone will be able to efface. Congress should never allow the plea of the people of San Francisco to pass unheeded, and I have no reason to believe that it will."

R. E. Dow, mayor of Santa Monica: "The opposition that is being made against the Hetch Hetchy bill is simply one that is being made that the citizens of San Francisco may be kept from their own. The only practical source for water for that city is from the mountains, and this should be realized by Congress."

J. H. Cavanaugh, mayor of Redondo Beach: "It should be the unanimous request of the people of all California to urge the United States Senate to pass the bill granting the necessary land rights in the Hetch Hetchy Valley, whereby San Francisco may obtain an adequate and necessary water supply for the present and future use."

Robert Jordan, president Alhambra Chamber of Commerce: "I am profoundly in sympathy with our sister city, San Francisco, in her endeavor to provide a water system adequate not only for the present but for a greater future. We of Los Angeles are to-day rejoicing over the acquisition of a water supply similar to that for which San Francisco is struggling, and if we of the southland can help her to obtain that which will be a lasting and increasing benefit it is our moral duty to stand by her."

T. D. Allin, city commissioner of Pasadena: "There is an abundance of water in the Hetch Hetchy Valley, and it can be and must be used to the people's advantage. There is no justice in discriminating against the needs of the people of San Francisco and its vicinity for the sake of sightseers."

Victor H. Metcalf, former Secretary of the Navy, president Union Savings Bank, Oakland, Cal., says:

"A bigger water supply for all the bay district than the one now available is absolutely necessary, and there is no question that the Hetch Hetchy is the logical solution. There is no doubt in my mind that the legislators will see it that way, and any fights against it are more than likely made for no other but business reasons."

OAKLAND, CAL., December 2, 1913.

By W. M. Parker, president Chamber of Commerce of San Bernardino, Cal.: "The securing of the Hetch Hetchy reservoir site by the city of San Francisco will not in any way tread on the rights of others, and it will be of untold benefit to the thousands in that city who are dependent upon this enterprise for a good and pure supply of water to promote good health and happiness. I can see no good reason for blocking the plan."

Louis E. Aubury, former State mineralogist of California: "I have been familiar with the Hetch Hetchy country for over 30 years, and knowing that region as intimately as I do I unhesitatingly indorse San Francisco's case. I have mapped all that country and know its characteristics thoroughly. Hetch Hetchy is difficult of access, particularly so from the Yosemite Valley. It is an arduous trip, and very few people at present go in there annually. I believe the work the city plans to do there would open the beauties of the country to 100 persons for every person who now visits Hetch Hetchy."

By Mrs. A. P. Black, president of the California Club: "There are several things that San Francisco very much needs, but the things that it occurs to me, we are wanting the most is good water and plenty of it. By that I mean the Hetch Hetchy water. If the Spring Valley could be developed to meet our needs, that would be a great improvement on existing conditions, but the Hetch Hetchy would give what I really have in mind, and that is pure mountain water."

Mark L. Requa, president Alameda County Tax Association: "We stand fast with the people of San Francisco in asking the Government to give us the Hetch Hetchy project. It will be needed. We must have it. By 1926 every possible near-by water supply will be exhausted. The situation is far more serious than people suppose."

Wells Drury, secretary Berkeley Chamber of Commerce: "The sentiment here is overwhelmingly in favor of Hetch Hetchy, throughout the entire region of the eastern side of the bay. We should exert ourselves to secure this great supply, not from a selfish motive, for we will derive as much benefit as San Francisco."

RESOLUTION BY BERKELEY CHAMBER OF COMMERCE.

The following resolution was adopted by the Berkeley Chamber of Commerce and forwarded to Washington when the Hetch Hetchy bill was first discussed in Congress:

"Resolved, That the Berkeley Chamber of Commerce is in favor of the pending legislation which proposes to place in operation the so-called Hetch Hetchy plan for supplying pure water to the city of San Francisco and the other communities of the district about the Bay of San Francisco."

RESOLUTION FROM CITY OF RICHMOND, CAL.

The following resolution was passed by the Discussion Center of the City of Richmond:

Whereas the Discussion Center of Richmond, Cal., has heard a thorough discussion of the Hetch Hetchy project, affording it an opportunity to hear a complete exposition of arguments for and against the utilization of this valley as a source of water supply for San Francisco and the bay cities; and

Whereas the members of the Discussion Center are convinced as a result of this discussion that in all fairness, justice, and common sense San Francisco should be granted access to Hetch Hetchy for water-supply purposes; and

Whereas the city of Richmond is one of the cities which will share in the inestimable benefit of bringing this pure and adequate supply of water to the communities of the San Francisco Bay district: Therefore be it

Resolved by the Discussion Center of Richmond, That this organization unequivocally indorses the Hetch Hetchy project and earnestly urges the United States Senate to pass the Raker bill, pending before that body, granting San Francisco the necessary rights to proceed with the development of this greatly needed and now wasted supply of water.

D. J. HALL, President.

Mrs. C. F. SMITH, Secretary.

M. J. Burke, mayor of Sacramento: "I am very strongly in favor of the Hetch Hetchy proposition for San Francisco. I hope that the United States Senate will pass without delay the bill giving San Francisco its much-needed right to use the water of the Hetch Hetchy Reservoir site."

Otto R. Ludwig, mayor of Richmond: "Not only must the Hetch Hetchy proposition be consummated for the benefit of San Francisco, but for that of all the cities about the bay and for California. The metropolis of our State must have an adequate water supply. The Hetch Hetchy Valley is not the scenic paradise that some people imagine it is. The rugged valley will look vastly more beautiful with a lake resting between its walls. This is a battle of the people against insidious interests working with selfish motives of private gain. We know the need San Francisco has for this water supply, when we consider what an inestimable boon it would be to Richmond could our mains be connected with such a flow of water, pure and sufficient, to serve any size population."

Frank Otis, mayor of Alameda: "I am strongly in favor of the Hetch Hetchy project, and am glad that, as far as the source of the supply is concerned, the question is settled. You may count me among the loyal supporters, first, because I think the proposition is a splendid one, and, second, because I have hiked and climbed all over the Hetch Hetchy site, love it, and like to see it acquired by the bay cities."

Thomas Monahan, mayor of San Jose: "It is only simple justice to San Francisco that the Government should permit the use of the Hetch

Hetchy Valley and Lake Eleanor for a water supply for San Francisco. Los Angeles has just completed a big aqueduct, bringing water from the southern part of the Sierras to that city, and the question is every bit as paramount to San Francisco as it is to Los Angeles.

"The fact that several Secretaries of the Interior and the Army Engineering Corps have approved the Hetch Hetchy is proof that it is the only available supply for San Francisco.

"I fully expected that when the lower House of Congress passed the Hetch Hetchy bill that the Senate would immediately concur. I am very much surprised at the action of Senator JOHN D. WORKS in opposing this bill, as I believe the interests of the irrigationists are amply protected."

That the Sacramento Valley will permit no diversion of waters of the McCloud River is the unanimous assertion of the valley press elicited by recent attempts to exploit what is known as the McCloud River project.

Alert to the interests of their readers not only the three powerful newspapers of Sacramento, the Bee, Union, and Star, but newspapers generally throughout the upper Sacramento Valley have given emphatic expression to their protests against any such proposition.

They oppose:

First. Any lessening of navigable depths in the upper Sacramento River during the river's low-water months.

Second. The diversion for use of San Francisco or any other community of water needed during the low-water months for irrigation.

[The California press, both of the northern and southern portions of the State, is practically unanimous in favoring the Hetch Hetchy bill. Following are a few brief articles and the papers in which they appear:]

SET SAN FRANCISCO FREE FROM MONOPOLY.

[From the Los Angeles Examiner, Saturday, Nov. 29, 1913.]

San Francisco has reached the crucial point in her fight for the Hetch Hetchy water supply. Final action on the Raker bill, giving the city its natural rights in the valley will be taken on December 6, and on that action depends the welfare of a great metropolis and the half million people.

In considering the opposition to the project, the Los Angeles Examiner directs the attention of the Senate to the objections brought forward by so-called lovers of nature and self-appointed custodians of the Nation's scenic wonders. These well-meaning but misinformed persons assume that covering the floor of the Hetch Hetchy Valley with water will destroy its beauty and injure the wonderful Yosemite, of which California and the Nation are so justly proud.

Leaving out of consideration the well-founded suspicion that this portion of the opposition has been crystallized and brought to bear on the Senate by the water and power companies for their own selfish ends, the argument advanced is not supported by the facts.

In the first place, the Hetch Hetchy basin has no part in the scenic beauty and majestic grandeur of the Yosemite. The Yosemite would still be the Yosemite if the Hetch Hetchy did not exist at all. Moreover, to assume that an expanse of water like a lake spread over the floor of the Hetch Hetchy would detract from rather than enhance the beauty is pure assumption, since not one in a thousand of those who signed the petition have ever seen the Hetch Hetchy Valley or ever will. It is the most talked-of and the least visited scenic spot on earth.

As a matter of fact, men who love nature quite as well as do these signers of the opposition petition and who are competent judges by reason of their familiarity with the region, are firmly of the opinion that the charm of the Hetch Hetchy will be enhanced by turning the swampy floor of the valley into a beautiful mountain lake. And when it is considered that San Francisco undertakes to construct a magnificent driveway around the margin of this lake, how can it be imagined that one of the earth's beauty spots will be destroyed?

But setting aside this difference of opinion, the truth remains that the needs, health, and safety of a million men, women, and children are paramount to the esthetic enjoyment of some two or three hundred persons who annually undertake the rather arduous trip to the Hetch Hetchy Valley.

It is almost inconceivable that opposition to such a necessity as this water-supply project for San Francisco can be taken seriously. Nor would it be except, as pointed out in the Examiner yesterday, for the powerful influences of the several water and power companies, whose hope of coercing millions from a defenseless people is jeopardized.

Chief among these is the Yosemite Power Co., which has possession of water rights on the Tuolumne stream, 2 miles from Hetch Hetchy, in the canyon known as the Poopenaut Valley. If San Francisco is given her just rights and is permitted to store the Tuolumne waters in the Hetch Hetchy, the water rights of this private corporation would not be worth a song. But as those rights were obtained in careless time and at little cost the loss to the company would be prospective, not actual.

If San Francisco is denied her rights and the attention of Senators is called to this point, the Yosemite Power Co. will impound the very same waters of the Tuolumne for private profit and will compel the city of San Francisco and the farmers of the irrigable regions to pay more for the power developed from these waters than the water and power together would cost if San Francisco is permitted to carry out its great undertaking.

This private corporation would be in a position to dictate its own terms and fix its own prices. In fact, it would hold the city of San Francisco and the farmers of all the irrigable lands affected at its mercy. It would mean that millions upon millions of dollars would be wrung from the people for a necessity—as much so as the very air they breathe—and all for private profit. It would be a reversal of the first principle of democracy—an overturning of the foundation stone of the Republic in conferring the greatest good on the smallest number. That would be a calamity, indeed.

It is inconceivable that the great United States Senate will thus deliberately make it possible for a private corporation to hold up and sandbag a great municipality just emerging fresh and fair from a calamity in which the lack of water played so important a part.

It is inconceivable that the greatest deliberative body in the world in this enlightened age and in this era of supposed freedom will establish on the mountain side a tyrannical power like the robber baron of a benighted age, whose castle crowned the hill and who from that vantage point demanded and received tribute from all who dwelt in the valley.

The days of the robber barons lie behind us. Too often have we imitated them in the last few years by the laxity displayed by city, State, and Nation in granting permits and bestowing rights and fran-

chises. Let us make no more mistakes. The refusal to grant what San Francisco asks would be one of these mistakes.

It would be no mistake, however, to place a great city forever in undisturbed possession of so imperative a necessity as an abundance of life-giving and life-preserving water. It would be no mistake to get San Francisco free for all time from the greedy grasp of a monstrous monopoly.

The Los Angeles Examiner earnestly hopes the Senate will give our sister city what, after all, is hers by all the laws of right and justice and what the vast majority of the people of California, and we believe of the country generally, will concede as belonging to her.

[Bakersfield Californian.]

[The Californian, leading newspaper of Bakersfield, Kern County, is published in a region absolutely dependent for its agricultural prosperity on irrigation from the waters of the Sierra streams. Yet this is the unprejudiced view it takes of San Francisco's request for the Hetch Hetchy overflow.]

Whether from the standpoint of the utilization of the water for irrigation, or from that of sentiment, the Californian has scant patience with the opposition that is developing to San Francisco's project of securing a water supply from the Sierras. The prosperity of the metropolis of the State is a matter in which all of California is interested, and it can not continue to expand unless it is assured of a permanent and an abundant water supply.

The Hetch Hetchy waters ran down to the sea for all the years that California has been occupied by white men. So San Francisco occupies a very different position from that of Los Angeles a few years since. The latter city coveted the waters of Owens River—water that was appropriated and that had reclaimed the desert. To secure that water it was necessary to take over rights that again made a desert of a large acreage. There was, of course, strong opposition to a city acquiring that water.

But no such situation confronts San Francisco. It is asking for that which has not been directly utilized, and to seek to block the movement savors too much of the dog-in-the-manger policy.

[From the Colton (Cal.) Daily Courier.]

WATER WORTH MORE THAN SCENERY.

Get a nickel not one of the women who helped place the Federation of Women's Clubs on record against the Hetch Hetchy project ever saw the valley or know personally whether the plans San Francisco has in mind for taking her domestic water from that country would injure the valley or not or in any way impair its scenic beauty.

An organization like the club women, organized for the betterment of mankind, ought to be chary about opposing any public enterprise, and especially one so necessary as that of procuring an ample and desirable supply of pure water.

Especially should southern Californians keep away from such entanglements. Down this way we need every drop of water there is obtainable. When there is some to be had we do not cavil about "scenic beauty" or the chance of impairing attractiveness of mountain valleys; we go and get the water wherever it is to be had.

But these ladies who condemn the San Francisco project ought to know that it will actually make the valley where the lake is to be created more attractive. Let them ask themselves whether they would prefer a mountain valley full of brush and nothing done to make it accessible or to have a beautiful lake placed in its center and ample driveways created, where one must take an automobile through some of the grandest scenery in our mountains.

That is just what San Francisco proposes to do. This is disputed by the Spring Valley Water Co. and its emissaries, who fought San Francisco at every turn she has made to get a decent supply of water.

[From the Santa Barbara Press, Nov. 29.]

The United States Senate must soon decide whether the future development of San Francisco and the other bay cities is of more consequence than the preservation for scenic purposes of the Hetch Hetchy Valley in its present inaccessible and isolated condition. Federal engineers have declared that the Hetch Hetchy is the one available source of water supply for the populous bay district. A number of eastern newspapers of the influential class have bitterly opposed the bill that would establish a reservoir site in the Hetch Hetchy; and while their sincerity is not questioned, there is reasonable ground for belief that their attitude has inspiration from the corporate interests that now furnish San Francisco, Berkeley, and other municipalities in that vicinity with an indifferent supply of water at very profitable rates.

[From the Santa Monica Outlook, Nov. 29.]

The Outlook takes the position that the furnishing of an adequate water supply to a great city—a supply that will be pure and lasting—is of paramount importance, and that no sentiment should interfere with the furnishing of such a supply. It seems that the Hetch Hetchy is a typical case of the sentimentalist trying to overbalance the practical.

[The Los Angeles Herald, the leading evening newspaper of the great city of southern California, printed an editorial on Saturday last heartily indorsing the Hetch Hetchy project. From that editorial the following excerpts are taken:]

We call upon the United States Senate not to deny, but to supply San Francisco's water needs.

Why is it that San Francisco has not received justice at the hands of the National Government at Washington? That city has prayed for the privilege to secure pure water for her needs. Her prayer has not been positively denied, but it has been and is most grievously deferred.

Washington was not appealed to in vain by Los Angeles when this city sought its water supply from the mountains of Inyo County. It is our hope that our sister city may fare as well at the hands of this administration as we did during Roosevelt's rule.

San Francisco's water supply is inadequate. Her case is more necessitous than was ours. We apprehended a shortage and sought to provide against such contingency.

Fortunately we received not only fair treatment but prompt treatment, which is what has been denied San Francisco so long that her needs are now most imperative.

Approximately a million people around the Bay of San Francisco are interested in the securing of an adequate provision of pure water for now and the time to come.

Before the proposed reservoir and aqueduct can be constructed and connected with San Francisco and vicinity over a million human beings will be in need, perhaps in distress, for water.

What is asked is a permit to create a magnificent artificial lake in the Hetch Hetchy Valley in the Sierras. The creation of such a lake would make even more beautiful an already picturesque scenery. It would not injure the landscape. It would not harm a living thing. It could create no nuisance, no menace, and be of no detriment to anybody or anything.

Capital has clutched at this proposition of municipal ownership to strangle it. The slimy trail of that dragon of capitalistic greed can be trailed to the Capitol at Washington.

[From the San Diego Sun, Nov. 29.]

An open battle has been waged against the Hetch Hetchy plan by nature lovers whose sincerity there is no reason to doubt; but the Sun is convinced that the real opposition to the plan comes from the Power Trust, which is against the plan because the development of the Hetch Hetchy system will develop enough hydroelectric power to run San Francisco's municipal electric street railway and to light the city and other bay cities, and to provide water enough, not only for San Francisco, but for irrigation in the vicinity. The Power Trust does not care a hoot about the beauty of nature; it is worrying because if the plan goes through it will lose a lot of revenue which it would get if the municipal power was not developed. Write to your Senators and ask them to work for the Hetch Hetchy bill.

[From the Venice (Cal.) Vanguard, Nov. 29.]

In the matter of the Hetch Hetchy Valley reservoir project, it is only just to San Francisco that the metropolis of the north should be blessed with the water supply which she now seeks from the Sierras. All right and fair minded people are profoundly in sympathy with San Francisco in this fight for what we consider to be hers with all justice. This is particularly true when it is remembered that by the Hetch Hetchy reservoir, as planned, no injury can come to the farmers of the north.

[From the Monrovia (Cal.) News, Nov. 29.]

It is unfortunate that so many well-meaning people have signed remonstrances against the Hetch Hetchy project of the city of San Francisco without hearing both sides of the controversy fairly and fully stated. From the beginning the fight has been made against the people of San Francisco on a mere pretense, and people who have never seen the Hetch Hetchy Valley have enthusiastically responded to this pretense and rushed into the fray with the honest intention of frustrating a scheme to destroy one of California's beauty spots. Fudge! The provisions of the Raker bill, should it become a law, will greatly increase the beauties of the valley. It will also frustrate the selfish designs of some of the big power corporations of the State, and it will provide the people of San Francisco perpetually with a supply of wholesome mountain water for domestic and other purposes. The Raker bill should pass.

[From the Alhambra (Cal.) Advocate, Nov. 29.]

If San Francisco is denied the right to utilize the Hetch Hetchy water supply in providing itself with that greatest of municipal necessities—pure water—this whole Nation will point the finger of scorn at a Congress which allows private water-franchise grabbers to gobble up and withhold from a great city that which contributes to the very life and health of a million people.

[From the Lake Elsinore (Cal.) Press, Nov. 29.]

This is a case of the Common People of San Francisco v. The Yosemite Power Co. et al. When it is public profit versus private plunder the former should rule.

[From the South Pasadena (Cal.) Record, Nov. 29.]

It would seem that the least Congress could do would be to allow San Francisco the same privilege in the matter of securing a municipal water system that has been granted to other cities. The Bay City asks the Government for only a few hundred acres of land in the Hetch Hetchy Valley for reservoir purposes and in all justice the request should be granted.

[From the Marin Journal, Nov. 28.]

What is good for San Francisco is good for the entire State. This is no time for quibbling or indulging in sentimentalism. Water these cities must have, and in Hetch Hetchy lies their only hope of meeting the needs of the immediate future.

If these cities are to expand, they must have water. This can only be supplied from a few sources in this State. Every available supply outside of Hetch Hetchy has had claims piled upon it knee deep, and in order that San Francisco could acquire any of these supplies years would have to be spent in litigation, together with millions in money.

[Editorial from the Sentinel, Santa Cruz, Nov. 28.]

As far as known, the people of Santa Cruz stand with San Francisco in her determined effort to secure the Hetch Hetchy water supply. She must have this water.

[Editorial from the Evening Surf, Santa Cruz, Nov. 28.]

The writer yields to no one in his estimate of the value of national scenery. He is willing to stand in the ranks of conservationists and enthusiasts, but we are also not unmindful of the fact that pure water and plenty of it for a population of 10,000,000, as there will be about the Golden Gate in the distant future, is a requirement beyond price or comparison.

[From the Tribune, San Luis Obispo, Nov. 28.]

Readers of San Francisco papers for many months have not yielded the energy displayed by that city for a suitable system of water works appropriate for the population which is destined to come with the advent of the 1915 exposition and the opening of the Panama Canal. In fact, it is rarely that the Hetch Hetchy project is overlooked by the progressive citizens and the municipality, owing to the importance of

the project, which means a water system for the city, furnishing an ample supply of the fluid for a rapidly growing community.

[From the Oroville (Cal.) Mercury.]

The nature lovers, speculators, and those interested in the Spring Valley Water Co. are making one last desperate struggle to deprive San Francisco of the Hetch Hetchy water rights. The people of the whole northern part of the State rally to the support of the metropolis.

GOOD FOR SAN FRANCISCO AND ALL.

[From the Napa (Cal.) Daily Register.]

What is good for San Francisco is good for the territory paying tribute to that great commercial center, and to this extent, at least, we are interested in the Hetch Hetchy bill now in the United States Senate, and hope to see it enacted into law.

GIVE SAN FRANCISCO A CHANCE.

[From the Santa Ana (Cal.) Blade.]

It is difficult to understand why any part of the State should oppose the movement to get for San Francisco the best water system obtainable. Give San Francisco every chance to grow and develop, say we, and the sentiment should be universal.

WHY WASTE 200,000 HORSEPOWER?

[From the Chicago Record-Herald.]

Why should such an asset as 200,000 horsepower be allowed to go to waste?

[Oxnard Courier, Nov. 29.]

San Francisco has been trying for so long a time to establish a water supply adequate to the rapid growth of the city that many wonder what is delaying the project. The city has chosen the site for reservoir in the high Sierras, known as the Hetch Hetchy. It has already acquired the title to most of the land in the floor of this valley and many water rights. The demand of a city of several hundred thousand for water can not be denied. San Francisco is entitled to the water and will get it.

[Editorial from the Antioch Ledger, Antioch.]

Petitions circulated here this week for the purpose of learning how many were favorable to the Government granting to San Francisco the Hetch Hetchy Valley for a water system were signed freely. This is right, as that city is not asking anything unreasonable. Furthermore, if the request is granted no doubt but that the Bay City will sooner or later change to municipal ownership, which is the practical solution of the public-utility question.

TAGGART ASTON.

Mr. THOMAS. Mr. President, during the course of the remarks of the Senator from North Dakota [Mr. GRONNA] last night the senior Senator from New Hampshire [Mr. GALLINGER] caused to be read into the RECORD a letter dated November 26, addressed to him and signed by Taggart Aston. I shall not reread the letter, which will appear in the remarks of the Senator from North Dakota when they are published in the RECORD.

I deem it my duty, however, to call the attention of the Senate to the fact that this man Taggart Aston was, and probably still is, the "consulting engineer," as he calls himself, of the Sierra Blue Lake Water Co., a malodorous scheme engineered and fostered by Eugene Sullivan, to which I took occasion to refer somewhat at length the other day. It was developed in the hearings that Mr. Taggart Aston had a large contingent interest in that scheme, my recollection being that he was to receive 10 per cent of the proceeds in the event its promoters should succeed in their scheme to sell it to the city of San Francisco.

This gentleman now appears here as a volunteer proponent and champion of the Spring Valley water system. What his relations to it may be I do not know, but it is a fact that he has a large contingent interest in a scheme which not only will not bear investigation but seems to have been the subject of some pretty sharp practices during the course of its progress from the hands of Mr. Sullivan to the attention of the city of San Francisco, and the Senate should be apprised of the fact.

Mr. GALLINGER. I wish to say a single word in response to what the Senator from Colorado [Mr. THOMAS] has said. This letter came to me as a personal communication, apparently. I inquired of other Senators if they had received a similar letter, and they said they had not. Had such a letter been sent to each Senator I would not have introduced it. I know nothing whatever about Mr. Taggart Aston.

Mr. THOMAS. Mr. President, I am perfectly aware of that, for I know the Senator would not have introduced into this controversy a letter from a man of this character without having made a statement of the fact.

Mr. GALLINGER. I presented the letter for what it was worth. There is one feature about this discussion, however, that seems a little peculiar, and that is that almost every communication or statement that is submitted in opposition to this scheme is met by the suggestion that the men presenting such statements are engaged in malodorous practices and that they

are representing corporations or individuals whose conduct will not bear the light of day.

Mr. President, I know nothing about Mr. Aston, and, of course, he will answer for himself.

Mr. THOMAS. Mr. President, I am sure the Senator from New Hampshire will bear out the statement that I have not indulged in any criticism of the writers of any letters, except as I have presented to the Senate such facts connected with them which appear upon the record or which have come to my knowledge from reliable sources.

REPORTS FROM COMMITTEE ON PRINTING.

Mr. FLETCHER. Mr. President, on yesterday certain communications were referred to the Committee on Printing for action. I find that they have been ordered printed by the House of Representatives, and I therefore report them back and ask that they be referred to the appropriate committees.

The VICE PRESIDENT. The communications will be referred to the appropriate committees, without printing.

The communications are as follows:

A communication from the Secretary of War, transmitting, pursuant to law, a statement of the travel of officers and employees of the War Department from Washington to points outside of the District of Columbia (H. Doc. No. 364); to the Committee on Appropriations.

A communication from the Secretary of the Interior, transmitting, pursuant to law, a report of disbursements for the fiscal year ended June 30, 1913, made in the States and Territories from the proceeds of public lands for the support of colleges of agriculture and the mechanic arts (H. Doc. No. 361); to the Committee on Agriculture and Forestry.

A communication from the Secretary of Agriculture, transmitting, pursuant to law, a detailed statement of the expenditures of the Department of Agriculture for the fiscal year ended June 30, 1913 (H. Doc. No. 385); to the Committee on Agriculture and Forestry.

A communication from the Commissioners of the District of Columbia, transmitting the annual report of the Commissioners of the District of Columbia for the fiscal year ended June 30, 1913 (H. Doc. No. 403); to the Committee on the District of Columbia.

A communication from the assistant clerk of the Court of Claims, transmitting a list of French spoliation cases filed under the act of January 20, 1885, which cases were dismissed by the court for nonprosecution (H. Doc. No. 379); to the Committee on Claims.

AMENDMENT OF THE RULES.

Mr. GALLINGER, from the Committee on Rules, to which was referred Senate resolution 221, to amend Rule XIX of the standing rules of the Senate, submitted by himself on the 26th ultimo, reported it without amendment and submitted a report (No. 135) thereon.

Mr. BACON, from the Committee on Rules, to which was referred the resolution (S. Res. 227) to amend Rule XIV of the standing rules of the Senate, submitted by himself on the 3d instant, reported it without amendment and submitted a report (No. 136) thereon.

Mr. BACON, from the Committee on Rules, to which was referred the resolution (S. Res. 202) to amend Rule XII of the standing rules of the Senate, submitted by himself on October 30, 1913, reported it with an amendment and submitted a report (No. 137) thereon.

Mr. SHEPPARD. Mr. President, I ask that the report may be read. It seems to me that any amendment of the rules ought to be read, as it is important.

Mr. SUTHERLAND. Mr. President, I should like to ask the Senator from Georgia a question. This is a report from what committee?

Mr. BACON. From the Committee on Rules.

Mr. SUTHERLAND. When did the committee meet, may I ask the Senator?

Mr. BACON. It met on yesterday.

Mr. SUTHERLAND. While the Senate was in session?

Mr. BACON. It did. It had a very large accumulation of business, which it was impossible to dispose of during the time when so many Senators were absent from the city, and since the beginning of the regular session the long continuous sessions have made it impossible to meet at any other time.

Mr. SUTHERLAND. The Senator from Georgia has been here longer than I have, and I should like to ask him by what authority a committee of the body sits while the Senate itself is in session?

Mr. BACON. The only necessity for any authority to a committee to sit during the sessions of the Senate is not to give it the power, but to give Senators the license to be absent from

the Chamber—there is no restriction upon the time when a committee shall sit; there is, however, a restriction upon Senators being absent from the Chamber—a license which I am sorry to say a great many Senators abuse, as we have had illustrations frequently of late; but I know of no rule of the Senate or any principle upon which the sitting of a committee during the sessions of the Senate is illegal. The only point, I repeat, about it is as to the right of a Senator to be absent from his seat in the Chamber, and the object in asking that a committee may sit during the sessions of the Senate is to give a Senator practically a leave of absence from the Senate; it is not to give the committee any authority to act while the Senate is in session.

Mr. SUTHERLAND. Mr. President, I am aware of the fact that there is no express rule of the Senate with reference to the sitting of a committee while the Senate itself is in session; but I know it has been the practice of the Senate, and I am not certain but that it has been the uniform practice of the Senate, whenever it has been desired that a committee should sit during the sessions of the Senate to obtain the leave of the Senate to that end.

Mr. BACON. I repeat that the purpose of that is to give to a Senator the right to absent himself from the Chamber. It is not for the purpose of conferring any special authority upon the committee.

I will illustrate in this way, if the Senator will permit me: Suppose the Senate were in session and a measure were deemed of such importance that the committee should desire to have it brought to the attention of the Senate before the conclusion of the session, and the members of the committee should assemble in a corner of the Chamber and pass upon it. Would the Senator question the legality of that course, Senators all remaining in the Chamber during the time?

Mr. SUTHERLAND. I am not questioning the legality of it at all. I am simply asking the Senator a question with reference to it.

Mr. BACON. I think the better practice is for the committee to ask leave, not because the committee needs authority, but because the members of the committee need the permission of the Senate to absent themselves.

Mr. SUTHERLAND. I will say to the Senator that while I do not question the legality of the action of the committee I do question the propriety of a committee or committees sitting while the Senate is in session.

Mr. BACON. I will say to the Senator that I entirely agree with him; and I think the question of propriety there involved is exactly the same as the question of the propriety of the course of any Senator who was absent from this Chamber last night.

Mr. SUTHERLAND. Mr. President, I was absent from this Chamber last night.

Mr. BACON. I said nothing to that effect.

Mr. SUTHERLAND. No; I know the Senator did not. I was also absent from the Chamber the night before; and I will say to the Senator now that, except when I am compelled by the action of this body to attend the sessions of the Senate, I propose to be absent from the Senate Chamber during the night sessions hereafter.

Mr. BACON. Mr. President, I think I have the floor.

Mr. SUTHERLAND. Wait just a moment, if the Senator please. I come here in the morning at 10 o'clock, and I am willing to stay here until 6 o'clock in the evening. That is as long a time as in decency any Member of the Senate ought to be required to attend. A majority of this body has seen fit, in order to wear out the minority of the body, as it has been openly confessed upon the floor of the Senate, to require the Senate to be in session during the hours of the night as well. The Senator's party is responsible for that order. The Senator desires the order, and he and his side of the Chamber must take the burden of seeing that it is carried out.

Mr. JAMES. Mr. President—

Mr. BACON. I hope the Senator from Kentucky will permit me to proceed. I will yield to him in a moment.

I think it is a very unusual spectacle for a Senator to stand on the floor of this body and boldly and defiantly say to the Senate that he does not propose to abide by the rules of the Senate. It is a rule of the Senate, as it is a rule of every parliamentary body—whether expressly written or not I do not remember—that a Senator shall be present unless he is absent by permission. Senators are frequently absent because that permission is considered as tacitly granted. Nobody disputes that, and nobody considers that a Senator who absents himself in that way is violating the rule. But when a Senator stands on this floor and says that he proposes and intends to absent himself purposely and in violation of the order of the Senate, then I say the Senator is so far affronting the Senate as to defy it and to say that he will not obey its order.

Mr. CHAMBERLAIN. Mr. President, I rise to a parliamentary inquiry.

The VICE PRESIDENT. The Senator will state it.

Mr. CHAMBERLAIN. I really should like to know what is before the Senate. I have been waiting here to introduce a resolution.

The VICE PRESIDENT. Reports of committees are in order.

Mr. SUTHERLAND. Let me say just one word, Mr. President, in answer to the Senator from Georgia.

Mr. BACON. I yield to the Senator for that purpose.

Mr. SUTHERLAND. I thought I had the floor. Perhaps I am mistaken.

Mr. BACON. No; I think that the Senator has not. Possibly he is right about that, however.

Mr. SUTHERLAND. In my experience, Mr. President, the spectacle never has been presented to the Senate heretofore of the majority of the body passing an order of this kind for the express purpose, the openly stated purpose, not of legitimately transacting the business of this body, but of compelling Senators to attend for the purpose of wearing them out. Whenever the majority of this body undertakes to make me do something for the purpose of wearing me out I am going, to the best of my ability, to prevent myself from being worn out.

Mr. JAMES. Mr. President—

Mr. BACON. I hope the Senator from Kentucky will permit me to reply to the Senator from Utah.

Mr. SUTHERLAND. When that statement was made the other day the Senator from Georgia was the only Member upon the majority side to repudiate it. He did repudiate it. Every other Member of the majority sat silent and accepted it, and I supposed by that course acquiesced in the statement of the purpose of the resolution.

I say it is an unfortunate thing and an inexcusable thing for the majority of this body to propose an order of this kind for that purpose. If the business of the Senate required it, or if it were reasonably debatable that the business of the Senate required it, then it would be quite a different matter. I have sat here all night long, night after night, when I thought the business of the Senate required it; but I repeat to the Senator that I do not intend to jeopardize my health by attending these night sessions unless I am compelled to attend them.

Mr. BACON. Mr. President, the Senator from Utah says the purpose has been avowed to hold these sessions for the purpose of wearing out Senators. If that were so, I think the complaint would very well come from one not blessed with so much youth as the Senator from Utah.

To show how inconsistent is the Senator, however, one Senator made the remark of which he complains, and there was no general acquiescence in or repudiation of it. Another Senator disavowed it. In each instance the Senators on this side of the Chamber sat silent. Yet the Senator takes silence in one case as an acquiescence by all on this side and takes silence in the other case as a failure to repudiate. Where is the consistency of the Senator?

The remark was made by a Senator in a running debate, and did not call for any general expression one way or the other from this side of the Chamber. In the same running debate there was a disavowal of it by another Senator. The silence is no more significant in one case than in the other.

I wish to say to the Senator from Utah, as I have said before, that the purpose of the majority in proposing to have these sessions was the one I indicated—the purpose to give to the Senate full opportunity to have all right of unlimited debate, and, at the same time, in the exercise of that unlimited debate, which we knew would be necessarily protracted, to have, in the interest of the country, the passage of the bill effected as soon as practicable.

Mr. CLARK of Wyoming. Mr. President, will the Senator from Georgia yield to me for one moment?

Mr. BACON. I want to yield to the Senator from Kentucky before I yield to any other Senator, because he asked me to do so and kindly forebore until I had concluded what I was saying.

Mr. JAMES. I merely wanted to suggest to the Senator from Georgia that he might inquire of the Senator from Utah whether or not he made such violent protests as he now makes when the Senate sat, not until 10 or 11 o'clock, as we do, but all night long, when the Vreeland-Aldrich bill was under consideration, and was in constant session almost 48 hours, when the Senator from Wisconsin was forced to stay upon his feet 19 hours. I simply wanted the Senator to inquire whether or not the distinguished Senator from Utah, then a Member of this body, absented himself or protested against that action as having the purpose of exhaustion or as being unprecedented and a wholesale denial of the rights of the minority.

Mr. SUTHERLAND. The Senator from Utah on that occasion did neither, because it was perfectly apparent upon that occasion—and I make no complaint against the Senator from Wisconsin—that the Senator from Wisconsin was engaged in filibustering. Whenever it is apparent that the minority or any Member of this body, for the mere purpose of delaying action, is engaged in protracting the debate the majority is perfectly justified in resorting to unusual hours; but I remind the Senator from Kentucky that nothing of that kind has occurred. This order was brought in on the very first day of the session, before there had been the slightest opportunity of discovering whether or not anybody was going to engage in protracted debate.

Mr. JAMES. Then the purpose of the Senator's own party in keeping the Senate in session night and day when the Vreeland-Aldrich currency bill was up for consideration was the purpose of exhaustion, was it?

Mr. SUTHERLAND. No; it was not for the purpose of exhaustion. It was for the purpose of getting a vote in spite of the filibuster. I ask the Senator from Kentucky whether he believes there is any filibuster in operation upon this side of the Chamber?

Mr. JAMES. So far as I am individually concerned, I believe there is a purpose upon the part of certain Senators on the other side of the Chamber to delay the passage of the currency bill, which is demanded by the American people almost irrespective of political party. The business interests of the country are being held up while a lot of Senators demand the right to stand here upon the floor and speak for hours and hours.

Mr. SUTHERLAND. I will say to the Senator that, in my judgment, he is entirely mistaken.

Mr. JAMES. It is merely a difference of opinion. The country agrees with me and not the Senator.

Mr. SUTHERLAND. Let me tell the Senator why I think he is mistaken. Some weeks ago the order under which the Senate is now operating was made by unanimous consent. It was submitted to the entire body, and the entire body at that time agreed that this whole week, six days, should be devoted to the discussion of the Hetch Hetchy bill.

Mr. BACON. That is a mistake.

Mr. SUTHERLAND. It was the opinion of the Senate that it would require that length of time to dispose of it.

Mr. BACON. That was not the order.

Mr. CLARK of Wyoming. It was the intention.

Mr. JAMES. If the Senator from Georgia will permit me, I merely wish to call the attention of the Senate and the country to the fact that Senators upon the other side of the Chamber, when they were in control and the Vreeland-Aldrich bill was under consideration, did not stop at adjournment at 11 o'clock, but kept the Senate of the United States constantly in session for two days and nights, until the Senator from Wisconsin was physically exhausted, in order to force a vote. Now, because we merely ask that the Senate shall remain in session until 11 o'clock, it is said that we are violating all precedent and that we are brutally running over the rights of the minority.

We are doing nothing of the sort. The country looks upon this as a body that ought to be, at least, responsive to the public will. The public will is known upon this currency bill, and the country wants the Senate to enact it into law.

Mr. CLARK of Wyoming. Mr. President—

Mr. BACON. If the Senator will pardon me a moment, I will yield the floor. Does the Senator wish to interrupt me now? I have but a word or two more to say, and then I will yield the floor.

Mr. OVERMAN. Will the Senator yield to me before he yields the floor?

Mr. BACON. Yes. I will yield also to the Senator from Wyoming.

Mr. OVERMAN. I wish to ask the Senator if it is not customary, and has not been for years, for the Committee on Rules to meet while the Senate is in session?

Mr. BACON. It has generally been the case.

Mr. OVERMAN. According to my recollection—and I have been on the committee for years—we step down here in the room of the Committee on Rules, when we have anything to do, and meet while the Senate is in session. I wish to say, also, that on yesterday I gave notice to the Senate that the Committee on Rules was in session.

Mr. CLARK of Wyoming. Mr. President—

Mr. BACON. I yield to the Senator from Wyoming.

Mr. CLARK of Wyoming. I did not want to ask a question. I desire simply to make an observation on the subject matter that is before the Senate, and to give what I consider an additional reason why committees should not meet during the

sessions of the Senate except by permission asked and obtained. It is that it deprives either the committee or the Senate of the services of the individual members of the committee at that particular time. If the Senate should happen to be engaged upon business of interest to a member of the committee, it would not only deprive the committee of his services, but it would deprive him of his opportunity to be before the committee and assist the committee with advice in the consideration of such matters as might come before it.

While, as I remember, we have no rule prohibiting a committee from meeting during the sessions of the Senate, I think the practice is a very wise one that the committees should not meet during the time the Senate is actually in session, both for the general reason I have urged and for the reason which is personal to the committeeman himself.

Mr. OVERMAN. Mr. President, when the Senator's party was in power I never attended a meeting of the Committee on Rules that was not held during the sessions of the Senate. I think the Senator from New Hampshire, who has been an honored member of the Committee on Rules for a long time, will bear me out in the statement that for the last five years no committee meeting has been held by the Committee on Rules, so far as I can recollect, except during the sessions of the Senate.

Mr. GALLINGER. The Senator from North Carolina makes a correct statement on that point.

Mr. CLARK of Wyoming. It is rather surprising to me that both the Senator from North Carolina and the Senator from Kentucky should want to cut their pattern according to Republican cloth. They are not in the habit of doing that.

Mr. OVERMAN. What I am complaining of is that the Senator should criticize us for doing it.

Mr. CLARK of Wyoming. It seems to me a little strange that those Senators should cite as a precedent what the Republicans have done in the past. That, of course, is aside from the question, however. My observation was directed to the question itself, and I think to a valid reason why ordinarily meetings of committees should not be held while the Senate is in session.

Mr. OVERMAN. I want to remind the Senator from Wyoming, who was a great chairman of the Committee on the Judiciary, that at frequent times we have had meetings during the sessions of the Senate.

Mr. CLARK of Wyoming. If the Senator will examine the records of this body and of the Judiciary Committee, he will find that almost universally—I attended to it myself—permission was asked and granted by the Senate; and it was seldom, seldom indeed, that a meeting of the committee was held without such permission.

Mr. BACON. I desire to suggest to the Senator that it very frequently occurred that the Judiciary Committee was in session when the Senate met, and that it would remain in session for a half hour or more before it adjourned.

Mr. CLARK of Wyoming. I call the attention of the Senator also to the fact, as the records of the Senate will show, that prior to that time the permission of the Senate had been given for the meeting of the committee while the Senate was in session.

Mr. BACON. Possibly.

Mr. CLARK of Wyoming. Oh, I think it was always the case.

Mr. WORKS. Mr. President—

Mr. BACON. If the Senator from California will pardon me, I will yield the floor in a moment.

Mr. WORKS. I desire to address myself particularly to the Senator from Georgia. Of course I will wait, if he wishes it.

Mr. BACON. Of course, I will yield to the Senator now, if he desires to address himself particularly to anything I have said.

Mr. WORKS. The statement has been made here a number of times that the opportunity for debate on the Hetch Hetchy bill has been used for the purpose of delaying action on the currency bill. If that be true, I have been one of the worst offenders.

Mr. BACON. I have not made that statement.

Mr. WORKS. I was going to ask the Senator from Georgia if he really believed that I extended my remarks on the Hetch Hetchy bill with such a purpose as that.

Mr. BACON. Certainly I do not, and I have made no such statements as to any Senator. I certainly have said nothing to indicate it in the slightest degree. If I had continued, I should have said something before I concluded which would have absolved, so far as I am concerned, any Senator who has spoken from any imputations of that kind.

Mr. WORKS. Certainly that never entered my mind.

Mr. BACON. I am sure of that.

Mr. WORKS. I think I was induced to extend my remarks beyond what some Senators may think was reasonable because of the necessity on my part to explain the laws of California, with which I should have been more familiar than other Senators.

Mr. BACON. Mr. President, I want to say just one word more as to the motives which inspired the Democrats in the effort to secure longer sessions. I say for myself, and I believe, for Senators on this side generally, if not universally, that whatever may have been the impulse of the moment in any utterance that has been made, we were confronted by a condition where we thought it important that there should be an early conclusion of the debate and early action of the Senate on the bill. We recognized the fact that one rule of the Senate which Senators had the full right to enjoy was that of unlimited debate, and we had to reconcile the two things—unlimited debate and an undue prolongation of the time. It was the thought and the purpose, I will say, so far as the utterances in that conference could be construed, to give time for unlimited debate and at the same time not to go so far as to postpone to too late a date the action of the Senate upon the bill. That was the sole purpose.

I heard no word, Mr. President, which indicated that it was done for the purpose of defeating any anticipated filibuster. I have heard a suggestion that some Senators would like if the bill be not passed early, but I have heard no suggestion of a filibuster, and this was not done in anticipation of a filibuster.

I think I speak with the utmost candor and correctness when I allege that as the motive and purpose of the Democratic side in proposing to have extraordinarily long sessions, and if necessary to surrender the Christmas holidays. We do not, if we provide for a continuous session during the Christmas holidays, impose anything upon Senators on the other side that we do not impose upon ourselves, and we thus take the burden upon ourselves also. We are willing to ourselves make sacrifices. We desired that Senators on the other side should have the opportunity for unlimited debate, and for this purpose we were willing to make the sacrifice of unusual hours. Some of us are not so young as the Senator from Utah, and we have found it perfectly consistent with our health and comfort to be present, and we are not worn out by what has occurred, and do not anticipate being worn out by what may occur hereafter in attending the sessions during these long hours.

Mr. GALLINGER. Mr. President—

Mr. BACON. I yield to the Senator.

Mr. GALLINGER. I simply want to make an observation which will take but one moment, and that is to say to my good friend that I have talked personally with almost every Senator on this side of the Chamber, and there is but one opinion expressed, and that is that we want as early action as possible on the currency bill after it has been properly debated.

Mr. BACON. I think so, Mr. President.

Mr. GALLINGER. There is no other feeling or purpose.

Mr. BACON. I give full credit to Senators on the other side for that, and the only purpose in having extraordinarily long sessions is that there may be had full debate; and yet there is a condition of affairs in view of which every Senator must recognize as one which as soon as possible should be brought to an end, to wit, the necessary suspense and uncertainty in great business circles as to what is to be the outcome, and they should be given the opportunity soon to adjust themselves to what may be the outcome and consequences of this legislation.

Mr. SMOOT. Mr. President—

Mr. BACON. I yield to the Senator from Utah.

Mr. SMOOT. Mr. President, I want to say to the Senator in all frankness that I would join with him or anyone else upon the other side of the Chamber to prevent any sort of a filibuster. It is not in my heart—

Mr. BACON. I am aware of that.

Mr. SMOOT. I want also to say to the Senator that I believe this bill will be passed by the Senate before the holidays.

Mr. BACON. I hope so.

Mr. SMOOT. That is what I believe, and I do not see why it should not be.

Mr. LANE. Mr. President—

Mr. BACON. If the Senator will pardon me, I will be through in one minute.

Mr. LANE. Very well.

Mr. BACON. The present debate is on the Hetch Hetchy bill. Last night, when Senators were absenting themselves, some on this side, I am sorry to say, and almost all on the other side, the time was taken up by an interesting and legitimate argument by a Senator on the other side of the Chamber

upon the Hetch Hetchy bill, the Senator from North Dakota [Mr. GRONNA]. I am sorry that Senators were not here to hear him. Although I did not agree with the position taken by the Senator, I must recognize the fact that he was making an interesting and logical argument on that question. How could it be charged as an effort to wear out the Senate? I have not heard a single word from a Senator on either side of the Chamber which indicated that a word on the Hetch Hetchy bill has been spoken for the purpose of delay. It is a question in which there is a great deal of interest, a great deal of feeling, and in which large interests are involved. Senators feel the deepest interest in it, and I think every minute of the time we have been in session has been legitimately employed.

It may be that some of us have thought that the argument was pressed to a greater degree than was necessary to establish certain points the Senators wished to present, but that is for Senators to determine for themselves. There has been no minute of this time that any word has fallen in this debate which indicated to my mind that a word was spoken for the purpose of delay. How can the criticism be that this particular week it is for the purpose of wearing out Senators? We are to vote to-morrow, and I think all the time intervening is going to be taken to finish that debate, if we sit here even until 11 o'clock. I believe the Senator from Utah will agree with me about that.

Mr. President, I want to call attention to just one thing. I have the highest regard and personal friendship for the Senator from Utah [Mr. SUTHERLAND]. I think he knows that fact. Yet I must deprecate and sincerely regret that the Senator from Utah would utter upon this floor what he uttered to-day in saying that he intended to disobey the order of the Senate. Here is a rule of the Senate, Rule V, paragraph 1:

No Senator shall absent himself from the service of the Senate without leave.

I repeat that is not construed to mean that every Senator before he leaves the Chamber for a day or for a longer period of time shall obtain the direct consent of the Senate. There is a tacit consent on the part of the Senate that Senators shall be absent when their interests require it. They are tacitly left to determine that each for himself. But a Senator stands on the floor and says that he absents himself not because he has the tacit consent or the implied consent of the Senate, but that in defiance of the order of the Senate he does not intend to obey this rule. I say the Senator from Utah has, in my judgment, done an injustice to himself in making such an utterance on the floor of the Senate.

Mr. WILLIAMS. Mr. President—

Mr. SHEPPARD. Mr. President, I rise to a question of order.

The VICE PRESIDENT. The Senator from Texas will state the question of order.

Mr. WILLIAMS. I wish just a moment or two.

Mr. SHEPPARD. The Senator from Georgia has reported an amendment from the Committee on Rules. I should like to have that reported amendment read. Should the amendment be read on the request of any Senator? That is the question I wish to submit.

Mr. WILLIAMS. I ask the Senator from Texas to withhold that request for just a moment.

The VICE PRESIDENT. Is there objection to the reading of the report?

Mr. WILLIAMS. I have no objection to its being read, but it can be read, I think, as well after I am through.

Mr. SHEPPARD. I will withdraw the request until after the Senator concludes.

Mr. WILLIAMS. Mr. President, as I seem to be the "bad man from Bitter Creek" in this controversy and am somewhat held up to the country as the author of legislative ruffianism, pronounced in a voice of complaint that might have been characteristic of a martyr at the stake somewhere back in the Middle Ages, it may be well that I should say a few words, although I do not want to join in the evident scheme of taking up the time of the Senate.

The Democratic caucus was faced with a situation. It had a bill of the highest importance to 90,000,000 people. The banks and the bank reserves and bank operations were waiting upon its passage. It was necessary therefore to take whatsoever steps were necessary upon our responsibility as a party charged with legislation in order to put that bill through at the earliest date possible, to hurry up its consideration, and to speed its conclusion.

Now, the caucus being in that situation, the Senator from New York [Mr. O'GORMAN], as he said yesterday, moved that the Senate should begin on Monday to meet at 10 o'clock; whereupon I moved an amendment that when it met at 10 o'clock it should stay in session until 6 and take a recess until 8

and remain in session until 11, unless otherwise ordered by the Senate. That is the resolution which is now before this body. There is no secret about its being a caucus resolution. There is no mystery about it whatsoever. It comes as a voice of the party charged with the obligation of legislation.

In the course of the debate upon that question the Senator from Nebraska [Mr. NORRIS] asked me a question, and when I am asked a question I answer it truthfully or I do not answer it at all. He asked me if one of the objects was not to hurry the Senate to a conclusion, to hurry it to a vote, and I responded by saying, "Yes; wear the talkers down, wear the talkers out." Some of you stated that I said "Wear the minority out." I did not. There are just as many talkers on this side as on that, and I said the object was—

Mr. SUTHERLAND. Mr. President—

The VICE PRESIDENT. Does the Senator from Mississippi yield to the Senator from Utah?

Mr. WILLIAMS. I do not just at this time. The object is to reach a vote. What are the means adopted to bring about the object? It is to begin the talking early, to continue the talking late, to continue it continuously, until men fond of talking get tired and quit, and then the Senate can vote.

I express my own opinion. The Senator from Georgia [Mr. BACON] expressed his. Neither one of us has any authority to express what the party meant or what the party purpose was when it adopted this resolution; but I say that if when the party adopted this resolution its object was not to get an early vote and the means adopted by it was not to wear out the talkers in order to do it, then it did a senseless and foolish thing.

There is nothing in this resolution that interferes in the slightest degree with the right of unlimited debate. Upon the contrary, we have given you 11 hours a day instead of 5 to speak in, to debate in, to debate banking and currency, to debate Hetch Hetchy, and for the most part you have been debating the resolution. We gave you 6 more hours to talk in, and you have been claiming that we have cut off the right of debate because we gave you 6 more hours to talk in.

As I said, when I answer a question that is put to me here or elsewhere, if I answer it at all—it might be sometimes wiser not to answer it at all—I answer by stating the truth as I understand it. The truth as I understand it is that we were apprehensive that this bill might go over until after the holidays. We were apprehensive that that might have a bad effect upon the country; that it might continue a condition of things which is not for the good of the country. We therefore concluded that it was our duty to put it through as soon as we can, and put it through before the Christmas holidays, if possible.

We therefore adopted this caucus rule, the object of which was to speed consideration, to speed debate, to give fuller opportunity for debate, and to speed the conclusion by a vote. That was the object, and the means adopted to do it was to make the talkers talk early and talk late and talk continuously, so that they might possibly get tired of talking and let us have a vote. We were apprehensive otherwise that the debate might go on for months.

So much for that, Mr. President. I hope that it will not be considered by anybody, in spite of Sir Oracle Rebutte of one description or another, that I have apologized or intend to for simply stating the truth as I understood it.

I go further and say that under the rules of this body whenever there is much debate on a great question, where Senators are determined to debate forever, there is no way of arriving at a conclusion in this body under its rules except by wearing the talkers out. You have resorted to it on that side when you were in power. We have resorted to it on this side when we were in power. We are resorting to it on this side when we are in power. As the Senator from Kentucky [Mr. JAMES] said, you resorted to it in the Aldrich-Vreeland bill. You resorted to it a dozen times in history. I remember in 1893 the Senate was in session not all night for one night, but all night substantially for nearly a week. With what purpose? With the avowed purpose of bringing the free-silver discussion to a close, and it did finally bring it to a close. What we are saying to the country and to everybody is just this: "You shall have all the debate you want; you shall have your stomachs full of debate, but you must begin to debate at 10 o'clock in the morning and you must continue to debate until 11 o'clock at night with two hours' intermission to give you a rest, which was more than you gave the Senator from Wisconsin [Mr. LA FOLLETTE] on the Vreeland-Aldrich bill."

Our purpose is when one man is through talking another man shall follow him, and if not the bill shall be read, and when that man is through talking another shall follow him, and if not

the bill shall be read, and that no man shall get up here and hold up the business of 90,000,000 people by saying: "Mr. President, I desire to make a few remarks upon this bill; I am not prepared right now, but I will be upon next Wednesday, or I will upon day after to-morrow," or rise in another way familiar to the Senate, reminding you of a minister of God giving notice that he is going to administer the sacrament, when he says: "God willing, I purpose upon a certain day to administer"—a Senator gets up here with 90,000,000 people waiting on him and says substantially: "Heaven willing, on Thursday next"—not to-day, not now—"I purpose to make a few remarks" upon such and such a subject.

We wanted to bring this bill to a conclusion. You say you want to do it. I have no reason to doubt your veracity when you say it. Those of you who are honest with yourselves and honest with God know as well as I do that under the rules of the Senate there is no way of securing the speedy consideration and conclusion of a vexed question except by keeping the Senate in session for unusual hours and keeping up early and late continuous debate. That is all there is to it. There is no mystery about it. There is no secret about it. There is no legislative ruffianism about it.

I can not help but feel sorry for the Senator from Kansas [Mr. BRISTOW]. He looked like one of those old pikemen of Oliver Cromwell when he was protesting against the tyranny of the Stuarts. You would have thought we were about to put him in a dungeon under the sea somewhere, fasten his hands and his feet and gag his mouth and keep him from talking, keep him from debating, keep him from voting. An invasion of the rights of the minority! What are the rights of the minority?

I have been in a minority long enough to know. Great heavens, you do not know what are the shackles that can be put upon a minority. You have never had any experience of it. For six years in the House of Representatives I had it. But at the utmost what are the rights of a minority? To propose amendments, to protest, to debate, to enlighten, to illuminate all they can. There is nothing more precious in a free country than a minority—a live, fighting, thinking, working minority. It is absolutely necessary to free government, and for that reason a system of dual parties has always been found absolutely necessary to the perpetuation of free government—a party in power alive with a program and a party out of power alive with a program and alive with good reasons to give why the majority's program should not win. From the clash of opinion comes public enlightenment and, later on, public action in favor of the majority or in favor of the minority; but a minority's right never extends to the end of defeating that which the majority has determined upon, unless it can be defeated by convincing enough of the majority that the majority is wrong. That is all.

I am a "legislative ruffian"! A mild-mannered, bland sort of a man like me scaring the Senator from Kansas [Mr. BRISTOW] to death! [Laughter.] I could not scare the Senator if I met him out in a back alley at night all by myself and he all by himself. A better piece of acting I never witnessed than that of the Senator from Kansas. I never knew before that he was a good actor, but he proved it upon that occasion by the solemnity of his countenance, the seriousness of his expression, and the violence of his gesticulations as he protested against being manacled and bound and gagged and generally manhandled in an ugly way. Now, you know, every one of you, just as well as I do—and anybody who says anything to the contrary utters what he knows between God and himself to be a hypocritical pretense—that there is nothing in this resolution that cuts off at all your right to debate. On the contrary, we are giving you 11 hours a day in which to talk instead of 5.

Mr. SMITH of Arizona. And as many days as they want to keep it up.

Mr. WILLIAMS. And as many days as you want to keep it up. That is for you under your responsibility to the country. My own private opinion is that the longer you keep it up the worse it will be for you; but still that is a matter for you to determine, not for us to determine. We are ready to go on with the debate.

You say you have no idea of delaying us. Granted, because you say it; I have no reason to dispute your veracity at all; but I should like for some Senator to tell me why every day for the last three days pretty nearly every hour or two the point of no quorum has been made and Senators been brought in here and the time wasted upon a roll call because Senators were not interested in the debate.

You know as well as I do that while you can lead a horse to water you can not make him drink. You can not make a man listen to a speech that he does not want to hear. You have to

conquer the attention of this body like that of any other body. Here are men who have made up their minds how they are going to vote upon a question, and they want to be doing something else. Indeed, speaking for myself, I had a great deal rather when I am talking that those who do not desire to hear me would retire into the cloak rooms, so that I may have order in the Chamber, than that they would be forced to sit unwilling listeners. I do not care to be a bore to anybody, and, what is more, I do not want anybody to bore me. I would not have a man dragged in here to hear me talk, and a man ought not to be dragged in here to hear anybody talk. We are grown, "free, white, and twenty-one," Senators of the United States, presumed to have sense enough to know whether we want to hear a speech or not, presumed to have sense enough to know whether we think we will get any edification from it, presumed to know whether it may change our point of view and our vote.

As a matter of fact, when Senators are interested in a subject matter and interested in a speech, they are going to be in this Chamber to listen to the debate upon that subject matter and to the speech made by the Senator who interests them upon it. Otherwise you can not make them listen. You bring Senators in here to listen to a speech that I am making, for example, or which is being made by the Senator from Oklahoma [Mr. OWEN], or the Senator from Indiana [Mr. KERN], we will say. A Senator listens a little while, and says, "That is familiar ground; there is nothing new in that; I believe I will go into the cloak room to take a smoke, or I believe I will go down and get lunch; I do not see that my education is being particularly added to; I think I will run over and dictate a few letters and come back if there is a call of the Senate." Are you going to treat a lot of grown men who are Senators of the United States like a lot of school children and say, "Here is your bench, buddy, sit on it?" I do not think any man who has pride and thinks much of himself wants unwilling listeners. He wants them willing or not at all.

I apologize for having taken up any time at all. I am playing for these few minutes exactly the game that I do not want played by anybody.

Mr. SHEPPARD. Mr. President, I renew my request that the resolution be read.

Mr. SUTHERLAND. I want to say just a single word.

Mr. SHEPPARD. I withheld the point of order until the Senator from Mississippi [Mr. WILLIAMS] finished, and I now want the resolution reported by the Senator from Georgia [Mr. BACON] read.

Mr. SUTHERLAND. If the Senator desires to insist upon it, I shall take my own time to say what I have to say.

Mr. SHEPPARD. It is a very short report.

Mr. CLARK of Wyoming. A parliamentary inquiry, Mr. President. Under the rules of the Senate is a report of a committee to be read except by unanimous consent?

The VICE PRESIDENT. The Chair was about to rule that, if there was an objection, the question would be submitted to the Senate as to whether the report should or should not be read.

Mr. CLARK of Wyoming. I object, Mr. President; at least I shall do so unless the Senator from Utah [Mr. SUTHERLAND] is given the opportunity to be heard.

Mr. SHEPPARD. I shall read a portion of paragraph 4 of Rule XIV, and then resume my seat:

4. Every bill and joint resolution reported from a committee, not having previously been read, shall be read once, and twice, if not objected to, on the same day, and placed on the calendar in the order in which the same may be reported.

Mr. SUTHERLAND. Mr. President, I would have finished—

The VICE PRESIDENT. The rule which has just been read by the Senator from Texas refers to a bill or a joint resolution.

Mr. SHEPPARD. Does the Chair hold that it does not apply to a Senate resolution?

The VICE PRESIDENT. It does not apply to a Senate resolution. There now being an objection to the reading of the report of the Committee on Rules, the question is for the determination of the Senate. Shall the report of the Committee on Rules be read? [Putting the question.] The ayes have it, and the report will be read.

The Secretary read the resolution and report, as follows:

Senate resolution 221, submitted by Mr. GALLINGER November 26, 1913.

Resolved, That the rules of the Senate be amended by adding the following paragraph to the nineteenth standing rule, to be numbered and known as paragraph 6 of said rule, to wit:

"P.A.R. 6. Whenever confusion arises in the Chamber or the galleries, or demonstrations of approval or disapproval are indulged in by the occupants of the galleries, it shall be the duty of the Chair to enforce order on his own initiative, and without any point of order being made by a Senator."

[Senate Report No. 135, Sixty-third Congress, second session.]

CONFUSION IN THE CHAMBER OR GALLERIES.

Mr. GALLINGER, from the Committee on Rules, submitted the following report, to accompany S. Res. 221:

The Committee on Rules, to whom was referred Senate resolution 221, to amend Rule XIX of the standing rules of the Senate, having considered the same, recommend the passage of the resolution by the Senate.

The VICE PRESIDENT. The resolution will be placed on the calendar. The Secretary will read the next report from the Committee on Rules.

The Secretary read the resolution and report, as follows:

Senate resolution 227, submitted by Mr. BACON December 3, 1913.

Resolved, That Rule XIV of the standing rules of the Senate be amended as follows: At the conclusion of the second paragraph of said Rule XIV strike out the period and insert a semicolon in lieu thereof and add the following proviso, to be thereafter a part of said second paragraph, to wit:

"Provided, That the first or second reading of each bill may be by title only unless the Senate in any case shall otherwise order."

[Senate Report No. 136, Sixty-third Congress, second session.]

READING OF BILLS.

Mr. BACON, from the Committee on Rules, submitted the following report, to accompany S. Res. 227:

The Committee on Rules, to whom was referred Senate resolution 227, to amend Rule XIV of the standing rules of the Senate, having considered the same, recommend the adoption of the resolution by the Senate.

The VICE PRESIDENT. The resolution will be placed on the calendar.

The SECRETARY. Mr. BACON also reports from the Committee on Rules, with an amendment, S. Res. 202, as follows:

Resolved, That the rules of the Senate be amended by adding the following paragraph to the twelfth standing rule of the Senate, to be numbered and known as paragraph 3 of said Rule XII, to wit:

"P.A.R. 3. No request by a Senator for unanimous consent for the taking of a final vote on a specified date upon the passage of a bill or joint resolution shall be submitted to the Senate for agreement thereto until, upon a roll call ordered for the purpose by the Presiding Officer, it shall be disclosed that a quorum of the Senate is present; and when a unanimous consent is thus given, the same shall operate as the order of the Senate."

[Senate Report No. 137, Sixty-third Congress, second session.]

UNANIMOUS CONSENTS.

Mr. BACON, from the Committee on Rules, submitted the following report to accompany S. Res. 202:

The Committee on Rules, to whom was referred Senate resolution 202, to amend Rule XII of the standing rules of the Senate, having considered the same, report the resolution back to the Senate with the recommendation that it be adopted with the following amendment:

At the end of said resolution add "but any unanimous consent may be revoked by another unanimous consent granted in the manner prescribed above."

The VICE PRESIDENT. The resolution will be placed on the calendar.

Mr. SUTHERLAND obtained the floor.

Mr. CUMMINS. Mr. President—

The VICE PRESIDENT. Does the Senator from Utah yield to the Senator from Iowa?

Mr. SUTHERLAND. I yield to the Senator.

Mr. CUMMINS. I happened not to be here at the regular time, and out of order I desire to make a report from the same committee, the Committee on Rules, on Senate resolution 218, proposing an amendment to the standing rules of the Senate. I ask to have the report read, so that the whole matter may appear together.

The VICE PRESIDENT. The Senator from Iowa submits a report from the Committee on Rules, which the Secretary will read.

The Secretary read the resolution and report, as follows:

Senate resolution 218, submitted by Mr. CUMMINS November 22, 1913.

Resolved, That there shall be a standing committee of the Senate known as the committee on public documents. It shall be composed of three Senators elected in the same manner as the members of other standing committees.

No book, pamphlet, article, paper, address, or other matter requiring the consent or order of the Senate in order to be printed as a public document shall be so printed or an order therefor entered until the request or motion for such order shall have been referred to the above committee, and its report thereon received: *Provided*, That nothing herein contained shall be construed to interfere with the right of the Senate to discharge the committee from the further consideration of any such request or motion.

In making its report the committee shall describe the general character of the matter sought to be printed as a public document, and shall specifically state whether it is of such value to the country that it ought to be printed and circulated at the expense of the Government.

[Senate Report No. 138, Sixty-third Congress, second session.]

COMMITTEE ON PUBLIC DOCUMENTS.

Mr. CUMMINS, from the Committee on Rules, submitted the following report, to accompany S. Res. 218:

The Committee on Rules, to whom was referred Senate resolution 218, to amend the standing rules of the Senate, having considered the same, recommend that the resolution be adopted by the Senate.

The PRESIDING OFFICER (Mr. WILLIAMS in the chair). The resolution will be placed on the calendar.

Mr. OWEN. I ask that it go to the calendar under Rule IX.
Mr. SUTHERLAND. I have the floor, and yielded to the Senator from Iowa [Mr. CUMMINS].

Mr. OWEN. Mr. President—

The PRESIDING OFFICER. The present occupant of the chair was temporarily out of the Chamber. He will inquire if the Senator from Utah had been recognized?

Mr. SUTHERLAND. The Senator from Utah had been recognized and had yielded to the Senator from Iowa.

Mr. OWEN. When a resolution of this character is going to the calendar, as a matter of order I submit to the Chair I have a right to ask that it be placed on the calendar under Rule IX.

Mr. GALLINGER. No, Mr. President; not when it is first reported.

Mr. OVERMAN. When it comes up in its regular order for consideration the Senator can make that request.

The PRESIDING OFFICER. The Chair thinks the order was entered that the resolution should go to the calendar.

Mr. OVERMAN. Whenever the resolution comes up regularly the Senator from Oklahoma can ask that it be placed under Rule IX, but not at this time. As I understand, it takes its place on the calendar until it comes up regularly for consideration.

Mr. SMOOT. The Senator from Oklahoma can move that the resolution be placed on the calendar under Rule IX.

Mr. OWEN. I give notice that I will make that motion.

Mr. ASHURST addressed the Chair.

Mr. SUTHERLAND. Mr. President, I have but a single word to say, and I hope the Senator from Arizona will allow me to proceed.

Mr. ASHURST. Mr. President, if the Senator from Utah will yield to me for a moment, I am called from the Chamber by a constituent, and I only want to consume two minutes.

Mr. SUTHERLAND. I yield to the Senator.

Mr. ASHURST. With the kind indulgence of the Senator, I merely wish to incorporate into the Record some telegrams of importance similar to those I had read a while ago. I thank the Senator.

Mr. SUTHERLAND. The Senator does not ask to have them read, as I understand.

Mr. CLARK of Wyoming. That is not in order.

Mr. ASHURST. If I am out of order, of course I will not attempt to do so at this time. The Senator seems to indicate that I am out of order.

The PRESIDING OFFICER. The Chair will say to the Senator from Arizona that he can have them added to the telegrams he had inserted in the Record this morning.

Mr. ASHURST. I thank the Chair, but I wish them read at the desk.

Mr. SUTHERLAND. Mr. President, I have but a word or two to say, and I should have concluded long ago if I had been permitted to proceed.

Very naturally, it is a matter of some grief to me that my conduct does not meet with the approval of the Senator from Georgia [Mr. BACON]; but, after all, we are all equal in this body, and I am no more accountable to the Senator from Georgia for my conduct than the Senator from Georgia is accountable to me, and I have no apologies to make to him.

Mr. BACON. But, Mr. President, I said nothing indicating that I thought the Senator was responsible to me.

Mr. SUTHERLAND. I have the floor, and I prefer to proceed. The Senator saw fit to read me a lecture, and that is entirely within his power, if it may be subject to criticism from another point of view.

Mr. President, I said what I did say because of the extraordinary circumstances. I should not under any other circumstances have ventured to say upon the floor of the Senate that I had voluntarily absented myself from a night session or that I intended to do so in the future; but the circumstances that are presented here to my mind, whatever they may be to the mind of the Senator from Georgia, are extraordinary.

The Senator from Mississippi [Mr. WILLIAMS] very frankly says—and he is always frank—that he meant exactly what he said upon this subject two or three days ago. His position radically differs from that of the Senator from Georgia. Of course, I speak only for myself, but I venture to entertain the opinion that the Senator from Mississippi voiced the sentiments of the majority in this Chamber much more accurately than did the Senator from Georgia. While the Senator from Mississippi was entirely frank, he has forgotten precisely what was said upon that subject, and I desire to call it to the attention of the Senate. What he said was in answer to a question propounded by the Senator from Nebraska [Mr. NORRIS]. After the Sena-

tor from Mississippi had made some statement respecting the purpose of this resolution the Senator from Nebraska then said:

Well, the object of it is to wear men out.

And the Senator from Mississippi replied:

Absolutely; and there is no other way of doing it.

Mr. President, I have already said that whenever it becomes apparent that any man or any set of men in the Chamber have deliberately engaged in a filibuster for the purpose of preventing a vote upon a matter, the majority is justified in resorting to extraordinary hours; and that is wholly aside from the question as to whether or not the individual or the set of men who engage in the filibuster feel entirely justified in doing so. The majority have the right to have their views prevail; but that is not the situation which confronts us here.

This resolution was offered on the first day of this session, before there had been the slightest opportunity of determining whether or not there was going to be any attempt to delay action upon the currency bill. I say to the Senator from Mississippi—and I have as much right to entertain that opinion as he has to entertain the opposite—that there never has been the slightest intention or the slightest desire on the part of anybody on this side of the Chamber, so far as I know, to delay for one moment the final disposition of the currency bill. I say for myself that I am quite willing, after the debate shall have proceeded a reasonable time, to consent to fix a day or a time for voting upon the currency bill. Personally I see no reason in the world why it should not be disposed of before the Christmas holidays, and that simply by holding the Senate in session for ordinary and reasonable hours.

I think it is good sense to have the Senate in session simply for a reasonable length of time every day. What has resulted thus far? The first two hours of every day during this entire week have been devoted to a discussion of this very resolution. Time has been consumed in calling for quorums, and time will be consumed in the future in doing so. Last night, in pursuance of the order made by the Senate, you met here at 8 o'clock, and at the end of an hour or two you found yourselves without a quorum. The call of the roll, about 10 o'clock, as I am informed, or before 10 o'clock, showed only 30 Democratic Senators present and 22 absent. So you are not able even to carry out your own order with your own people.

Mr. THOMAS. Mr. President—

The VICE PRESIDENT. Does the Senator from Utah yield to the Senator from Colorado?

Mr. SUTHERLAND. I do.

Mr. THOMAS. The reference which the Senator has made to the condition in which the Senate found itself last night is a most pertinent one. The majority of this body is Democratic. We therefore have control of it and control of the legislation of the country. It is this majority which formulated and which is seeking to enforce this rule. Upon it rests the responsibility of maintaining a quorum of this body at all times. The surest way to have a quorum here is for Democratic Senators to be in their places. If they are in their places, we may take it for granted that Republican Senators will be in their places.

I have stayed here all summer long for the purpose of attending to the business of the country, and I have been present at substantially all times for the purpose of maintaining a quorum that can do business. I do not believe we are going to escape responsibility for our own derelictions of duty by reproaching Republican Senators for their absence from the Senate Chamber.

We might just as well face this matter as it is now, for we must face it sooner or later. The country is going to hold us responsible for the legislation of this session, and for our failures to legislate, and this is wholly just. Hence, without reference to Republican nonattendance, we should every one of us be here in our seats while the Senate is in session.

Mr. SMITH of Arizona. So ought every other Senator.

Mr. THOMAS. So should every other Senator; but if we are in our seats, you may be sure that Republican Senators will be in theirs.

I came here last Wednesday night to conclude an unfinished speech and had to wait until a quarter of 9 o'clock before we could get a quorum. I noticed that there were just as many vacant seats on this side of the Chamber as upon the other side. I sat here yesterday and listened to a very important speech upon the currency question which was made by the junior Senator from Missouri [Mr. REED]. I noticed that he received quite as much attention, from fully as many Senators, from one side of the Chamber as from the other.

If each of us upon this side will be here in his seat ready to attend to business there will be no more waste of time, in my judgment, and certainly nothing like the waste which has so far characterized the course of this session.

Mr. SUTHERLAND. Mr. President, I quite agree with what the Senator from Colorado has said, and he has saved me from the necessity of saying something that I otherwise intended to say; but I suggest to him that if his side of the Chamber at the beginning of this session will provide for reasonable hours of meeting, there will be no difficulty whatever in keeping the members of the majority in their seats as well as the members of the minority.

I have taken up entirely more time than I intended upon this subject, and I simply wish to conclude with this observation: When the Senator from Mississippi says the purpose of this order—to quote his own words—is “absolutely to wear men out, and there is no other way of doing it,” I take the liberty of dissenting from that sentiment and of undertaking to protect myself, at least as far as I can, from being worn out in any such way.

Mr. BRISTOW. Mr. President—

Mr. KERN. I call for the regular order.

The VICE PRESIDENT. The regular order is the reports of committees and the introduction of bills and joint resolutions. [After the introduction of bills and joint resolutions, which appear under their appropriate heading.]

Mr. WALSH. If that order of business is concluded, admonished by the experience of the week and this morning, before passing to the next order of business I desire to ask unanimous consent for the present consideration of Senate bill 2860, in the hope that we may actually accomplish something. This is a measure that was reported from the Committee on Privileges and Elections a week or ten days ago, and the report has been printed for the information of the Senate.

Mr. BORAH. What is the number of the bill?

Mr. WALSH. Senate bill 2860.

The VICE PRESIDENT. Is there any objection to the present consideration of the bill?

Mr. TOWNSEND. I desire to be heard briefly on the resolution offered by the Senator from Indiana [Mr. KERN], but I do not want to be accused of having talked for the purpose of putting it over. If by taking up his matter the Senator from Montana is going to prevent us from considering the resolution which will come up as the next order, I shall have to object. I have no objection to the consideration of the bill, but I do not want to be accused of having talked in order to put over the resolution.

Mr. WALSH. The Senator from Montana has no purpose whatever except to accomplish something. It appears that it is intended that the entire morning hour shall be again consumed in the discussion of this resolution. As the measure referred to by me is particularly urgent, and its passage is asked for by a large number of Senators, and in all probability it will give rise to no debate and probably to no dissent, I thought we might take it up and pass it.

The VICE PRESIDENT. Is there any objection?

Mr. TOWNSEND. Does the Senator prefer to take up this bill now rather than to pass the resolution which is before the Senate?

Mr. KERN. We have only 10 minutes more in which to pass it.

Mr. SMITH of Georgia. We can not take up a new matter, Mr. President.

The VICE PRESIDENT. Is there any objection?

Mr. SMITH of Georgia. I object.

The VICE PRESIDENT. Objection is made.

BILLS INTRODUCED.

Bills were introduced, read the first time, and, by unanimous consent, the second time, and referred as follows:

By Mr. WALSH:

A bill (S. 3551) to increase the limit of cost for the Federal building and site therefor at Billings, Mont., and to authorize the provision of quarters for United States courts in said building (with accompanying paper); to the Committee on Public Buildings and Grounds.

A bill (S. 3552) for the relief of J. D. Savage; to the Committee on Claims.

By Mr. BRISTOW:

A bill (S. 3553) granting a pension to James W. Banks (with accompanying papers); to the Committee on Pensions.

By Mr. OWEN:

A bill (S. 3554) to authorize the acceptance and administration of savings by the Postal Savings Bank service of the Post Office Department for crescent life annuities (with accompanying paper); to the Committee on Post Offices and Post Roads.

By Mr. WEEKS:

A bill (S. 3555) granting an increase of pension to William H. Allen (with accompanying papers); to the Committee on Pensions.

By Mr. McLEAN:

A bill (S. 3556) granting an increase of pension to Rowena M. Calkins (with accompanying papers); and

A bill (S. 3557) granting an increase of pension to Amanda Smith (with accompanying papers); to the Committee on Pensions.

By Mr. O'GORMAN:

A bill (S. 3558) granting a pension to Judson P. Adams; to the Committee on Pensions.

By Mr. WILLIAMS:

A bill (S. 3559) granting a pension to Clarence McMillan; to the Committee on Pensions.

ELECTION OF SENATORS.

Mr. SUTHERLAND submitted an amendment intended to be proposed by him to the bill (S. 2860) providing a temporary method of conducting the nomination and election of United States Senators, which was ordered to lie on the table and be printed.

AMENDMENT OF THE RULES.

Mr. SHEPPARD. I desire to give notice, in accordance with Rule XL, that during the session of the next legislative day of the Senate, or at a later day, I shall offer an amendment to Rule XXV of the standing rules of the Senate, as follows (S. Res. 231):

Insert after the paragraph which reads “A Committee on Revolutionary Claims, to consist of five Senators,” a new paragraph, to read as follows: “A Committee on Roads, to consist of 17 Senators,” to which shall be referred all proposed legislation relating to the construction and maintenance of roads.

The VICE PRESIDENT. The notice will be entered.

PRECEDENCE OF THE SENATE.

Mr. GALLINGER. Mr. President, on yesterday there was published in the Washington Post a most interesting communication from the pen of the senior Senator from Georgia [Mr. BACON] in reference to the Senate's rights of precedence. It is, to my mind, a very important matter, and I fully concur in the views so admirably expressed by the Senator from Georgia, whose long and distinguished public service entitles his utterances to the fullest confidence. Recognizing the value of the paper, I ask unanimous consent that it may be printed in the RECORD, and that it be referred to the Committee on Printing with a view to having a report from that committee as to the propriety of making it a Senate document.

The PRESIDING OFFICER. Senators have heard the request. Without objection, it will be complied with.

The communication was referred to the Committee on Printing and ordered to be printed in the RECORD, as follows:

TAKES A HIGH RANK—BACON EXPLAINS THE SENATE'S RIGHTS OF PRECEDENCE—QUESTION IS A LIVE ISSUE—POINTS OUT THAT CONGRESS CREATED MANY GOVERNMENT OFFICIALS—ONLY THE PRESIDENCY AND VICE PRESIDENCY AND THE SUPREME COURT, HE SHOWS, WERE CREATED BY THE CONSTITUTION IN ADDITION TO CONGRESS—PRECEDENCE IS YIELDED TO THE SECRETARY OF STATE AS A MATTER OF COURTESY ONLY.

Although the winter social and official season has just started, the question of the relative rank of Senators and the precedence to which they are entitled already has become an issue.

In view of the interest which this arouses, Senator BACON, chairman of the Committee on Foreign Relations, one of the senior Members of the Senate in point of service and familiar with the precedents and the functions of that body, in response to a request from the Post gave his views yesterday regarding the relative rank of Senators, as compared with other public officials.

SETS FORTH SENATE'S ATTITUDE.

Senator BACON avoids mention of any other officials over whom the Senate claims superior rank, and only speaks generally of all statutory officers. His statement clearly sets forth the attitude of Senators, which they doubtless will insist upon maintaining. His views follow:

“It is not altogether pleasant to discuss a matter personal to those with whom I am officially classed; but as the issue is made by some not familiar with the precedents, it is proper that answer should be made. You ask what is the proper relative rank of Senators.

“There should be no difficulty in answering that question by anyone who recalls the fundamental and controlling fact that the Constitution of the United States creates no offices except that of the Presidency and Vice Presidency, the Supreme Court, and the Congress, composed of the Senate and House of Representatives.

CONGRESS CREATED THE OTHERS.

“All other offices of the United States, excepting only those above mentioned, have been created by act of Congress.

“All officers of the United States, excepting only the President and Vice President, and the judges of the Supreme Court, and the Senators and Representatives have, without exception, been created by act of Congress; and, if deemed necessary, Congress can at any time abolish any one of these offices and create others in their stead. These offices, while most honorable positions, are nevertheless the mere creatures of Congress, nothing more. Within recent years Congress has created some of them, and has also abolished some of them.

“It is a plain proposition that the creature can not be greater than his creator. The Senate, as the upper branch of Congress, can not be the inferior in rank of offices which are the mere creatures of Congress.

WHERE THERE IS NO CONTROVERSY.

“There is no controversy as to the relative rank of the officers created by the Constitution. Of course, the President and Vice President in their order stand first without any question.

"In former times the question of precedence was in dispute between the Supreme Court and the Senate; but later the Senate courteously yielded the right of precedence to the Supreme Court. When, then, the Senate as the head of the legislative branch of the Government recognized the precedence of the head of the executive branch, and also of the head of the judicial branch, it has always declined to concede more in this regard.

"This consideration of the difference between constitutional and statutory officers is of itself sufficient to establish the rank of Senators, but there are still other reasons. The public officer takes his rank from the dignity and power of his office.

WHAT THE SENATORS REPRESENT.

"Senators represent great Commonwealths which are as sovereign within their sphere as is the Government of the United States within its sphere. So the Supreme Court of the United States has repeatedly decided. They represent States with an average population of 2,000,000, and running up in increasing numbers to 10,000,000 in one instance.

"Further, the Senate has greater and more varied functions than any other branch of the Government. With the House of Representatives, it shares the legislative power in the making of laws for 100,000,000 people, a vast power not limited to one department or division, but embracing the unlimited control of every department of the Government and extending the exercise of its innumerable great functions, not only in our domestic affairs, but including the making of war and peace with foreign nations.

SHARES POWERS WITH PRESIDENT.

"With the President it shares the executive power, and no treaty can be made with a foreign Government unless ratified by the Senate, and no officer of the United States, excepting those of insignificant consequence, can be appointed without the consent and approval of the Senate. Sitting as a court of impeachment, the Senate exercises the highest judicial power, and by its judgment can remove from office any officer of the Government from the highest to the lowest, and from its judgment of removal there is no appeal.

"There is no other legislative body of any Government in the world with such extensive and varied powers. To assign to Senators an inferior rank can not be harmonized with the possession and exercise of such powers.

"There is one exception to the claim of precedence over statutory officers which Senators, as a courtesy, seem willing to concede, and that is in the case of the Secretary of State. The late Senator Allison, who served for more than 30 years as a Senator and who was naturally very jealous of the dignity and rank of the Senate, said he was willing to concede this precedence to this officer who is the immediate representative of the President in our far-reaching foreign relations, but he would go no further.

EXISTED UNDER THE CONFEDERATION.

"It may be further said, in recognizing as a proper courtesy the precedence of the Secretary of State, that he holds a great office, dealing as it does with world-wide and most momentous international questions, and that it existed under the Confederation before the adoption of the Constitution of the United States and before the creation of the office of President.

"Senators under other circumstances would be willing that they, as well as other officials, should forego all distinctions of rank, but that is impossible in the official life of Washington. In official circles Senators will of necessity be assigned to a certain rank and, that being so, they will insist on being accorded their proper rank; and, speaking generally, they prefer not to be present at any function, public or private, where this proper rank is not recognized and accorded to them.

"If this were a matter which related only to the personal dignity of a Senator, he might, if he saw fit, waive the question of his rank; but as the question of his precedence touches him in his official station his duty to his State leaves him no option in the premises.

PERMANENCY OF THE SENATE.

"One thing might properly be added. The Senate is the only branch of the Government which can not be abolished by an amendment to the Constitution of the United States. By constitutional amendment the office of the President could be abolished. By such amendment the Supreme Court or even the House of Representatives could be abolished. But in the Constitution itself it is solemnly covenanted that each State shall always have an equal representation in it, thereby pledging in advance that the Senate shall never be abolished even by constitutional amendment.

SERVE THROUGH MANY TERMS.

"The permanence of no other legislative body in the world is so securely safeguarded. Not only so, but Senators as a body, by reason of their lengthy service, constitute the most stable officials of the Government. It is rarely that a Senator serves during the term of one administration only, while many Senators serve through the terms of many administrations as each with its entourage periodically comes and goes.

"This insistence by Senators of their superior rank is not made in any depreciation of other officials. No officer of the United States, saving only the President and Vice President, is depreciated in being placed second in rank to Senators."

HOOR OF DAILY MEETING.

The VICE PRESIDENT. If there be no concurrent or other resolutions to be presented, the Chair lays before the Senate a resolution coming over from a previous day, which will be read.

The Secretary read Senate resolution 225, submitted by Mr. KERN on the 1st instant, as follows:

Resolved, That the hour of daily meeting of the Senate be 10 o'clock a. m., and that the Senate shall on each day at 6 o'clock p. m. take a recess until 8 o'clock p. m. and adjourn at 11 o'clock p. m., until otherwise ordered.

Mr. BRISTOW. Mr. President, I desire to say a few words in reply to the suggestions and insinuations made by the Senator from Mississippi [Mr. WILLIAMS].

As has been said, this resolution was proposed on the first day of the session, upon the presumption, as I infer from the discussion that has been had, that there was to be a very long debate on the currency bill.

I do not believe there is to be a very long debate on the currency bill. If these unusual hours had been proposed after

that debate had begun and run a reasonable time, and it had been demonstrated that there was to be a long and unusual debate, and that the interests of the country demanded unusual hours in order to terminate it, there would not have been a single objection, in my opinion, from this side of the Chamber.

Such a course, however, was not followed. It has been elected by the majority in this Chamber to take the bill into their caucus and have the debate in secret, so that the RECORD does not show what the bill is, its merits or its demerits. Those of us of the minority who have been studying the bill simply ask that we be given a fair opportunity to present to the country amendments to the bill, and explain to the country, as we view the matter, its defects.

We think we ought to be permitted to do that in a reasonable and normal way. If it appears that there is a conspiracy on the part of Republican Members or anybody else in this Chamber to prolong the debate to an unreasonable degree, or if for any other purpose it appears that the debate is to be of unreasonable length, then the resolution might be justified. Under the circumstances, however, in my opinion it is unprecedented, unnecessary, and will not result in so prompt a determination of the measure as would a more reasonable and sensible resolution.

So far as the Senator's reference to me in a personal way is concerned, I care nothing about it and give it no consideration and no concern whatever.

Mr. TOWNSEND. Mr. President, the resolution before the Senate provides that we shall meet at 10 o'clock in the morning and hold sessions, with an intermission of two hours at 6 o'clock, until 11.

I note that a great many Senators on this side state that they are going to vote for the resolution. I assume they are going to vote for it, although I know they are opposed to it, on the ground that they might be considered obstructionists in some way if they voted against it. As for myself, sir, I shall vote against the resolution, because I do not believe it is offered in the interest of promoting deliberate and wise legislation.

As has been stated, the resolution was presented to the Senate on the first day of the session, after the Senate had made an order setting aside this entire week for the consideration of the Hetch Hetchy bill. When the resolution was taken up it was known that the Hetch Hetchy bill had the right of way during this whole week.

Democratic Senators have risen here many times and have suggested that they were tired of talk. They have seen fit to pronounce as irrelevant and improper and tiresome the discussion given by Senators on this important measure—Senators who were posted, who were vitally interested, and who were intelligently submitting their views to the Senate and to the country. The Senators who have made these criticisms have assumed that only such things as they considered proper should be presented to the Senate. If we are to take their viewpoint of being opposed to debate, they have simply imposed burdens upon themselves, because by increasing the hours of the week they have enlarged the time for talk. Only the week could have been devoted to the bill anyway, for a vote must be had on Saturday whether the hours of the session were changed or not.

Mr. President, I am opposed to this proposition because I do not think it is necessary. I do not think it is presented in good faith, with an idea of securing more careful and considerate attention of the currency bill.

It has been conceded that, so far as the California bill is concerned, the minds of the majority have not been made up, and that they are of open mind in regard to that measure. I think there certainly should be a proper opportunity for those who are opposed to the measure to present their views, and that they should receive consideration for them.

It is claimed that time has been taken up in roll calls in efforts to get and keep a quorum in the Senate. The Senator from Oklahoma [Mr. OWEN] has unfairly stated that, but the country will not be deceived. Whenever there has been a roll call it has been known that there was not a quorum, nor half a quorum, in the Senate Chamber, and it has always taken considerable time to bring the Senators here. It is the duty of Senators to be here in the nighttime quite as much as it is to be here in the daytime.

I do not believe it is possible to observe the rules of the Senate and adopt this rule, because Senators will do what the Committee on Rules have been doing. They will meet in committee rooms when it is their business, under the rules of the Senate, to be here unless they are excused. They will not be here. Senators will not remain here and attend to business. They will go somewhere else in spite of all the demands we may make for a quorum from time to time.

Mr. President, my position is this, and I am somewhat in sympathy with the Senator from Utah: If this resolution is adopted it will be the rule of the Senate that Senators shall be here between the hours mentioned in the resolution. Why should Senators be compelled to attend the meetings of the Senate? For a righteous reason and a good cause, namely, to participate in the work of the Senate. Yet here is a proposition—the currency bill—for which this rule is provided, which has been enacted in caucus. It has been determined that that bill shall pass, and yet you now compel Senators to come here and remain, in order that you may have a quorum—you who are responsible for this rule.

I believe the Senators on this side, knowing in advance and having notice served upon them in advance that they have no part in the consideration of this bill, would be warranted in remaining away from the Senate, obliging the majority to hold a quorum for the transaction of its business. The majority practically announce that they have agreed upon this bill in caucus and that the minority is to have no part in it. We have the small privilege of speaking without hope of changing the measure, and even to do that we must speak to empty seats and at times unreasonable and unjust. For myself, sir, I shall not consent to this plan. Vote, if you wish, at once, but do not attempt to coerce me into assisting you in your scheme.

But why this haste? Why is it important that we should have legislation immediately on this proposition in this way? I will give you my understanding of your reasons later. If the Republicans had wanted to make political capital they would have permitted the Glass bill to be enacted into law, because it would have become a law had it not been for the minority Members and one or two Democrats on the Currency Committee. That bill would have gone through here as smoothly as the tariff bill went through. Under the whip and spur of coercion it would have passed and become a law.

So I submit, Mr. President, that it would have been good political capital, if the Republicans were simply looking for capital, to have had that bill passed as it came from the House. But the result of deliberation has shown, and admittedly it has been shown, that improvements have been made in it. Why not submit it to further investigation and discussion with the hope that possibly further improvement can be made in it?

But, Mr. President, history is repeating itself—

The VICE PRESIDENT. The hour of 12 o'clock having arrived, the morning hour has expired, and the Chair lays before the Senate the unfinished business, which will be stated.

The SECRETARY. A bill (H. R. 7837) to provide for the establishment of Federal reserve banks, for furnishing an elastic currency, affording means of rediscounting commercial paper, and to establish a more effective supervision of banking in the United States, and for other purposes.

The VICE PRESIDENT. In accordance with the unanimous-consent agreement of the Senate the unfinished business will be temporarily laid aside.

Mr. KERN. I ask that the resolution which has just been under consideration may go over until to-morrow, without prejudice.

The VICE PRESIDENT. Is there objection? The Chair hears none.

Mr. KERN. While I am on my feet I desire to move that when the hour of 6 o'clock shall have arrived the Senate shall take a recess until 8 o'clock.

Mr. SMOOT. Let me suggest to the Senator that he ask unanimous consent.

Mr. KERN. I did ask unanimous consent.

Mr. SMOOT. No; the Senator said "I move."

Mr. KERN. Very well; let it be put as a request.

The VICE PRESIDENT. Is there objection to the request of the Senator from Indiana? The Chair hears none, and when the hour of 6 o'clock arrives the Senate will take a recess until 8 o'clock.

Mr. KERN. I should like at this time, if there is no objection, to agree upon the hour of meeting to-morrow—that when the Senate adjourns to-day it be until 10 o'clock to-morrow morning.

The VICE PRESIDENT. Is there objection? The Chair hears none, and it is unanimously agreed to.

MESSAGE FROM THE HOUSE.

A message from the House of Representatives, by J. C. South, its Chief Clerk, announced that the House had passed a joint resolution (H. J. Res. 155) extending time for completion of classification and appraisal of surface of segregated coal and asphalt lands of the Choctaw and Chickasaw Nations and of the improvements thereon, and making appropriation therefor, in which it requested the concurrence of the Senate.

CHOCTAW AND CHICKASAW LANDS.

Mr. STONE. I ask that the joint resolution which has just been received from the House be laid before the Senate, and that it may lie on the table, hoping that I will find an opportunity during the day to have it considered.

The VICE PRESIDENT. The Chair lays the joint resolution before the Senate.

The joint resolution (H. J. Res. 155) extending the time for the completion of the classification and exemption of the surface of segregated coal and asphalt lands of the Choctaw and Chickasaw Nations and of the improvements thereon, and making appropriation therefor, was read twice by its title.

Mr. SMOOT. Would it not be better to have the joint resolution referred to the Committee on Indian Affairs and then reported from the committee to-day?

Mr. STONE. It is exactly similar to a joint resolution which I introduced, which I have had in charge, and which has been submitted to members of the committee generally as far as I have been able to see them. I would feel authorized to say that it has the approval of the committee.

Mr. SMOOT. I have no objection to it, but I do think it ought to be referred to the committee and then reported from the committee to the Senate.

Mr. STONE. I have no objection if the Senator prefers that course.

The VICE PRESIDENT. The joint resolution will be referred to the Committee on Indian Affairs.

Mr. STONE subsequently said: From the Committee on Indian Affairs, I report back favorably without amendment House joint resolution 155, extending the time for the completion of the classification and appraisal of the surface of the segregated coal and asphalt lands of the Choctaw and Chickasaw Nations and of the improvements thereon, and making appropriation therefor. I ask unanimous consent for the present consideration of the resolution.

The PRESIDING OFFICER. The Senator from Missouri asks unanimous consent for the present consideration of a joint resolution reported by him, which will be read for the information of the Senate.

The Secretary read the joint resolution; and there being no objection, the Senate, as in Committee of the Whole, proceeded to its consideration.

Mr. CLARK of Wyoming. Mr. President, may I ask the Senator from Missouri what is the method under which these lands are being appraised? Is there a commission?

Mr. STONE. Yes.

Mr. CLARK of Wyoming. And how is the commission constituted?

Mr. STONE. It is a commission appointed under the act approved February 19, 1912, during the last Congress.

Mr. CLARK of Wyoming. I mean, what is the personnel of the commission?

Mr. STONE. I am not able to give the Senator the exact personnel of the commission, but it was appointed under the authority of that act.

Mr. CLARK of Wyoming. Has the Senator any information as to how far they have proceeded with the appraisal?

Mr. STONE. Yes; I have. The Commissioner of Indian Affairs sent me a letter, which I have here on my desk, to the effect that the surface of the lands had all been appraised, save, I think, about 40,000 acres. Under the act this work of appraisal was to be completed by the 1st of December, but there are something like 40,000 acres not yet appraised. The joint resolution proposes to extend the time of the commission for the period of 60 days.

Mr. CLARK of Wyoming. Is the Senator satisfied that 60 days will be sufficient?

Mr. STONE. The commissioner says that it will be ample, and I have no reason to think it will not be sufficient.

Mr. CLARK of Wyoming. Mr. President, I have had my attention called to the segregated coal lands for many years, and, together with a committee of the Senate, made a visit where they are located a number of years ago—I think as many as six or seven years ago. At that time the recommendation of the committee was that the surface and improvements of these lands should be appraised; that there should be a segregation of the coal deposits from the surface; that they should be appraised; and that the surface especially should be put into useful occupation.

Mr. STONE. That is the very purpose of the appraisal.

Mr. CLARK of Wyoming. I was wondering how long this appraisal has been going on. It ought to be completed at once; but, at the same time, I think sufficient time should be

allowed in which to complete the appraisal by the commission, rather than throw it upon the Secretary of the Interior.

Mr. STONE. It is practically completed now. If the Senator desires the letter of the commissioner read, I will have it read.

Mr. CLARK of Wyoming. Oh, no; I simply asked the questions for my own information.

Mr. STONE. It is practically completed now, and the commissioner says that the additional time allowed will be ample.

The joint resolution was reported to the Senate without amendment, ordered to a third reading, read the third time, and passed.

SAN FRANCISCO WATER SUPPLY.

The VICE PRESIDENT. The Chair lays before the Senate House bill 7207 under the unanimous-consent agreement.

The Senate, as in Committee of the Whole, resumed the consideration of the bill (H. R. 7207) granting to the city and county of San Francisco certain rights of way in, over, and through certain public lands, the Yosemite National Park, and Stanislaus National Forest, and certain lands in the Yosemite National Park, the Stanislaus National Forest, and the public lands in the State of California, and for other purposes.

Mr. WEEKS. Mr. President, I regret that I seem to have offended the proprietaries as entertained by the Senator from Mississippi [Mr. WILLIAMS], because on the 26th of November I gave notice that after the morning hour to-day I should address the Senate on the currency question. I gave that notice not that I could not have been prepared to have spoken earlier, but because I entertained at the time the feeling that the Hetch Hetchy bill might have been disposed of so that we could go on with the currency measure. It was for the purpose of expediting public business rather than delaying it that I gave the notice.

Now, I find that the Hetch Hetchy bill is still pending. When the Senate adjourned last night the Senator from North Dakota [Mr. GRONNA] was in the midst of a speech. I do not wish to crowd the Hetch Hetchy matter off the legislative stage. I have considered with the Senator from North Dakota the question whether he will go on with his speech or not, and unless there is objection, I should like to have the Senator from North Dakota finish his speech, which will not take long, I understand, and then, unless there is objection, I should like to make the remarks on the currency bill, which I announced on the 26th of November that I would make to-day.

The VICE PRESIDENT. Is there objection? The Chair hears none. The Senator from North Dakota has the floor and will proceed.

Mr. SMITH of Arizona. Mr. President—

The VICE PRESIDENT. Does the Senator from North Dakota yield to the Senator from Arizona?

Mr. GRONNA. I yield.

Mr. SMITH of Arizona. I have asked the Senator to yield to me for a moment, because I wish to present to the Senate from the people of Los Angeles a number of telegrams which I received this morning. Many of the senders of the telegrams are well known to me and are the leading business men of southern California. I do not wish to detain the Senate by reading all the telegrams, but I shall ask to have them printed in the Record. I shall read only two or three as a sample.

LOS ANGELES, CAL., December 4, 1913.

Hon. MARK SMITH,
Senate, Washington, D. C.:

The Hetch Hetchy water project for San Francisco is worthy of serious consideration and deserving of your vote. It is wanted by all California residents to provide and care for the requirements of the present and rapidly increasing population of San Francisco.

W. W. WOODS,
Vice President Citizens' National Bank, of Los Angeles.

Another is as follows:

LOS ANGELES, CAL., December 4, 1913.

Hon. MARK SMITH,
Care of United States Senate, Washington, D. C.:

Inasmuch as pure water in abundance is the life of a great city, it is the duty of every public-spirited citizen of this and every other State to urge you to do everything possible to secure a water supply for San Francisco. Knowing you to be a friend of California and that there is much in common between California and your State, as a citizen of Los Angeles I earnestly urge you to vote for the Hetch Hetchy bill.

JOHN S. MITCHELL,
Hotel Hollenbeck, Los Angeles.

Another from Los Angeles, addressed to me, is as follows:

LOS ANGELES, CAL., December 4, 1913.

Hon. MARCUS A. SMITH,
Senate, Washington, D. C.:

Respectfully urge your favorable consideration of Hetch Hetchy bill; overwhelming majority of people of California favor measure; is of State-wide importance. Opposition to it is generally regarded as emotional, based on misinformation or inspired by selfish motives. Earnestly ask your help for San Francisco as the paramount interest. 700,000 BOOSTER CLUB OF SOUTHERN CALIFORNIA, ALBERT CHAPPELLE, Secretary.

I ask the unanimous consent of the Senate that the balance of the telegrams shall be printed in the RECORD.

There being no objection, the remainder of the telegrams were ordered to be printed in the RECORD, as follows:

LOS ANGELES, CAL., December 4, 1913.

Hon. M. A. SMITH,
Washington, D. C.:

Los Angeles, with water from the Sierras now within her gates, earnestly requests you to aid the future greatness of San Francisco. Your vote and help for the Hetch Hetchy bill will do this. May we count on you?

ROBERT MARSH,
President Robt. Marsh Co.

SANTA ANA, CAL., December 4, 1913.

MARK SMITH,
Senate, Washington, D. C.:

I believe it would be wise to give San Francisco privileges wanted in Hetch Hetchy Valley, and urgently request you to vote for bill giving San Francisco concessions asked.

W. A. ZIMMERMAN,
President Associated Chambers of Commerce of Orange County
and President Santa Ana Savings & Trust Co.

LOS ANGELES, CAL., December 4, 1913.

Hon. MARK SMITH,
Senate, Washington, D. C.:

California and its citizens urge you to vote for the Hetch Hetchy bill and give San Francisco its much-needed water. As a representative of a sister State, we know you will appreciate the vital necessity of a pure water supply, and we trust you will give us your aid by voting in favor of this bill.

H. S. MCCALLUM,
President of the Federated Improvement
Association of Los Angeles.

LOS ANGELES, CAL., December 4, 1913.

Hon. MARK SMITH,
Senate, Washington, D. C.:

It is the earnest wish of the people of southern California that you, as a representative of a sister State, vote for the Hetch Hetchy bill, which will give San Francisco its essential water supply. I earnestly urge you to do a great public good by voting for the bill.

JAMES R. H. WAGNER,
President of the James R. H. Wagner Co.

LOS ANGELES, CAL., December 4, 1913.

Hon. MARK SMITH,
Senate, Washington, D. C.:

Permit me to suggest that Hetch Hetchy bill should receive your serious consideration, the probabilities being that San Francisco is justified in its demands and no doubt in need of a greater water supply.

MAURICE SALZMAN,
Treasurer Arizona State Society.

LOS ANGELES, CAL., December 4, 1913.

Senator M. A. SMITH,
Washington, D. C.:

For the great benefit of more than a million Californians in and about San Francisco, and for the benefit of the State at large, it is imperative that the Hetch Hetchy bill be passed, and Californians urgently request that you, the representative of our sister State, vote in favor of this bill.

COL. E. S. ORMSBY,
President of the Federated State Societies of Los Angeles.

LOS ANGELES, CAL., December 4, 1913.

Hon. M. A. SMITH,
Washington, D. C.:

California, with whose interests Arizona are vitally linked, wants immediate passage for the Hetch Hetchy bill. Please give us your active help and vote for the Hetch Hetchy bill.

ROBERT A. ROWAN,
President R. O. Rowan Co., Los Angeles.

LOS ANGELES, CAL., December 4, 1913.

Hon. MARK SMITH,
Senate, Washington, D. C.:

The passage of the Hetch Hetchy bill is of vital importance to all California, and I earnestly urge you as representative of sister State to vote in favor of the Hetch Hetchy bill.

MAX SALZMAN,
President Salzman Co.

LOS ANGELES, CAL., December 4, 1913.

Hon. M. A. SMITH,
Washington, D. C.:

Southern California united with the north in urging the speedy passage of the Hetch Hetchy bill, that San Francisco's immediate wants and future needs may be provided for. Its enactment will tend to greater prosperity for the coast and Southwest. We earnestly urge you as a representative of our sister State to vote for it.

ROGER M. ANDREWS.

LOS ANGELES, CAL., December 4, 1913.

Hon. M. A. SMITH,
Washington, D. C.:

Your earnest support of the Hetch Hetchy bill is besought by southern California in unison with San Francisco as one of the best means of assuring prosperity to California and the Southwest. Please vote and work for its immediate passage.

ARTHUR LETTS,
President Retail Dry Goods Association.

LOS ANGELES, CAL., December 4, 1913.

Hon. MARK SMITH,
Senate, Washington, D. C.:

Los Angeles asks you as a true friend of California to vote for the Hetch Hetchy bill, and thus give to the people of San Francisco their

rights to a pure, abundant supply of water free of control by a private monopoly, which is striving to defeat the will and welfare of the citizens of a great city.

H. H. ROSE,
Mayor of Los Angeles.

RIVERSIDE, CAL., December 4, 1913.

Senator M. A. SMITH,
United States Senate, Washington, D. C.:

The crying need of city of San Francisco for an adequate water supply is imperative. I do not consider that the building of a storage reservoir in the Hetch Hetchy will destroy the valley's natural beauty, but several hundred thousand human beings will be cared for.

J. R. GABBERT,
Editor Riverside Enterprise.

RIVERSIDE, CAL., December 4, 1913.

Senator SMITH,
Washington, D. C.:

I believe with all lovers of nature that our national parks and beauty spots should receive all reasonable and proper protection from the Nation. I think, however, that municipal water needs are paramount even to beauty, and therefore urge granting Hetch Hetchy reservoir site to San Francisco under all reasonable and proper restrictions.

WM. L. PETERS, Mayor City of Riverside.

PASADENA, CAL., December 4, 1913.

Senator M. A. SMITH,
Washington, D. C.:

Feeling it is to the best interests of not only San Francisco and California but to the entire Southwest as well, we urge you to do your utmost to secure the passage of the Hetch Hetchy bill and give to San Francisco the water supply that rightly belongs to the people of that city.

D. M. LINNARD,
Manager Maryland and Huntington Hotels, Pasadena, Cal.

ALHAMBRA, CAL., December 4, 1913.

Senator SMITH,
Washington, D. C.:

Please lend every assistance consistent with the national policy to secure this Hetch Hetchy for San Francisco.

GEORGE W. CAMERON,
President Board of Trustees, Alhambra, Cal.

ALHAMBRA, CAL., December 4, 1913.

Senator SMITH,
Washington, D. C.:

California looks to you for favorable influence in the Hetch Hetchy project and will certainly appreciate such generous action.

ROBERT JORDAN,
President Chamber of Commerce, Alhambra.

ALHAMBRA, CAL., December 4, 1913.

Senator SMITH,
Washington, D. C.:

San Francisco is entitled to an adequate water supply, and the Government in granting to that city the Hetch Hetchy Basin would be practically following its recent policy toward Los Angeles.

NEWTON W. TOMPSON,
Senator Thirty-fifth District, California.

ALHAMBRA, CAL., December 4, 1913.

Senator SMITH,
Washington, D. C.:

If the Hetch Hetchy Valley is necessary to the welfare and prosperity of San Francisco, I am heartily in favor of its acquisition by that city.

Mrs. HARRY E. ROSE,
President Women's Club, Alhambra.

PHOENIX, ARIZ., December 4, 1913.

Senator MARCUS A. SMITH,
Washington, D. C.:

The importance to the city of San Francisco of securing the right to the Hetch Hetchy water supply can not be overstated. It is the only method of relieving the monopolistic control of its water supply. Should the rights to this water be denied them, the opportunity to secure municipal ownership of its water supply will be prevented. Knowing your desire to be of service to the people in every possible manner, I feel your support of San Francisco's right will be forthcoming, and I trust I do not presume too greatly in requesting that you give it your support.

REESE M. LING.

Mr. GRONNA. Mr. President, I had intended to make, I might say, extended remarks on this bill, but since the Senator from Massachusetts [Mr. WEEKS], who formerly gave notice that he would speak to-day, is ready to go on with a discussion of the currency question, I shall occupy only a short time this morning in discussing the Hetch Hetchy bill.

I realize, Mr. President, that the discussion of the Hetch Hetchy bill is rather tiresome, on account of the manner we have to proceed to present evidence against this measure, but I will proceed with the best of testimony, the only testimony that I could obtain. I will not burden the RECORD by reading a large number of letters from people who are opposed to this bill, although they may be valuable and bear upon the importance of the bill, but I will ask unanimous consent to print in the RECORD certain letters and extracts from certain publications in opposition to this measure.

This morning I shall not trespass upon the time of the Senate to read the testimony which I had intended to read, but I shall

ask unanimous consent to have the report made by the advisory board of Army engineers upon all the projects of possible sources of water supply printed in the RECORD.

There being no objection, the matter referred to was ordered to be printed in the RECORD, as follows:

5. Sacramento River: The principal features of a water supply for San Francisco from the Sacramento River are filtration and pumping.

At Collinsville, at the mouth of the river, the water becomes slightly brackish late in the season during years of light rainfall. At Rio Vista, 13 miles above Collinsville, it is always fresh. It has been suggested that the increasing demand for water for irrigation may in time draw so heavily on the river and lower it to such an extent that the upper limit, within which there may be brackish water in the late summer and fall, may move up well toward Sacramento.

Current meter observations made in August, 1908, at Courtland, 24 miles below Sacramento, gave a discharge of about 7,000 cubic feet per second. The lowest stage of the river that season occurred about a month later, when the gauge height was the lowest for many years. The discharge, however, was not less than at the lowest stage reached each year from 1898 to 1902, inclusive. The minimum discharge during this period was about 10 per cent less than in 1908, or probably about 6,000 second-feet. Determinations made from cross sections and slopes gave for the 1909 low-water flow of the Sacramento River, above the mouth of Feather River, more than 5,000 cubic feet per second. The season of 1911-12 being one of extremely light precipitation, it was thought that the record for small run-off would be broken; but although such is the case for most Sierra streams, the discharge of the Sacramento below the mouth of the American did not fall below about 6,300 second-feet.

Under the present regulations of the War Department governing taking water from the river, diversion is permitted only when the stage of the river is 2 feet or more above low water. On the upper river, above Monroeville, this stage may be reached in June; but at Sacramento, even during the low-water year of 1908, it did not reach this stage until July 18, or well toward the close of the season of heaviest irrigation as now practiced in the Sacramento Valley. In 1909 the same stage was not reached until August 6.

As an indication of the extent to which the low-water flow may, in the future, be increased by reservoirs in the mountains, attention is called to the Big Meadows Reservoir site in Plumas County, controlled by the Great Western Power Co. This, with a dam 85 feet high, will have a capacity of 450,000 acre-feet, or sufficient to maintain a flow of 2,500 cubic feet per second (the capacity of Big Bend Tunnel, through which the power plant is supplied) for 90 days. The minimum flow of Feather River at Oroville since 1901 was in September, 1903, 1,200 second-feet; in 1908 it was 1,250 second-feet. At Big Bend in 1908 it was 960 second-feet.

There are several other favorable sites in northern California for water storage, so that with power development, irrigation, and navigation interests all dependent on a well-maintained low-water flow of the streams, and considering also that a considerable percentage of water used for irrigation seeps back into the streams, it does not seem likely that the flow of Sacramento River need be so lowered as to permit sea water to get materially farther up the river than at present. In this connection, see extracts from reports of Col. Mendell and of Prof. C. G. Hyde, page 118.

Water taken from the Sacramento to San Francisco would have to be carried under the San Joaquin, nearly a mile wide in its lower reaches, or across Carquinez Straits by submarine pipes.

It seems, at first glance, more economical to take water for a filtered supply from some of the numerous channels of the lower San Joaquin with the waters of which those of the Sacramento mingle. This will be further considered under project No. 13. The relative advantages of filtered water supplies from the Sacramento and San Joaquin Rivers have been quite thoroughly studied by Mr. Allen Hazen, consulting engineer to the city, whose report has been presented to your board.

Mr. Hazen's report shows that, although either the Sacramento or San Joaquin water could be satisfactorily purified by filtration, the Sacramento water is now much softer than the San Joaquin and is not so likely in the future to increase in hardness to so great an extent, owing to its use for irrigation and consequent seepage back to the river.

The Sacramento water contains a much larger percentage of total solids and has a much greater degree of permanent hardness than the water from any of the proposed Sierra catchment areas. It is, consequently, even after filtration, a less desirable supply.

Mr. Hazen suggests several possible routes for conduits to San Francisco. He recommends one starting from an intake at Rio Vista and running quite directly to filtration works near Antioch, thence to Walnut Creek, East Oakland, and Alameda and across the bay to Potrero Point, San Francisco.

For estimate cost of a filtered supply from Sacramento River, see pages 135-137.

6. Feather River: The lowest point on the Feather River at which water could be diverted and delivered by gravity to a pumping station at the base of the Coast Range Mountains, in Contra Costa County, which, in turn, would raise it to such an elevation that it could then flow by gravity to Crystal Springs Reservoir or to San Francisco via Oakland, is in the vicinity of Big Bend on the North Fork or on the Middle Fork at about an equal distance (16 miles) above Oroville.

The drainage area of the North Fork of Feather River above Big Bend is 1,940 square miles. It contains a number of towns, including Quincy, Taylorsville, Crescent Mills, Greenville, and Prattville. The Western Pacific Railway parallels the river and its tributaries, Spanish and Indian Creeks, all the way from Oroville to Quincy, over 75 miles.

The Middle Fork drains the Sierra and Mohawk Valleys, agricultural lands, with several growing towns, and is paralleled by the Western Pacific Railway for 40 miles.

Although there are these several towns on the watershed and considerable stock raising, dairying, and mining operations, the population per square mile of drainage area is very small, but with the facilities for transportation now provided by the Western Pacific Railway it will increase.

With the large run-off from the Feather River catchment area and with the great reservoir possibilities, there is no doubt as to the possibility of its furnishing a sufficient quantity of water for San Francisco (400 million gallons daily) and supplying the irrigation requirements. (See statement as to low-water discharge and reservoir capacities on p. 86.)

The extent to which the great storage possibilities on North Fork of Feather River (mentioned in connection with discussion on Sacramento River) are likely to be developed is dependent on the demands for power and for irrigation. There has already been a considerable development

of each. The Big Meadows Reservoir is now under construction. The natural sterilization of water by storage in these distant reservoirs would be offset by mixing with the low-water flow of the river before the power plant is reached through which a city supply would pass. For a supply to be filtered the lower Sacramento, except in point of hardness, is much more advantageous than the Feather.

Mr. Grunsky's report on the Feather River, submitted to the board on August 1, recognizes that either the water must be filtered or stored below the point of intake in reservoirs for a sufficiently long period (30 days or more) to destroy pathogenic germs, and suggests the possibility of such storage in the hills back of Martinez.

He makes estimates of cost of two alternative schemes—one for delivering filtered water by gravity at an elevation of 20 feet in San Francisco; the other delivering raw water at an elevation of 50 feet at Martinez, then pumping it to a storage reservoir above Martinez, from which it would be delivered by gravity to San Francisco at an elevation of 215 feet.

After adding to the cost of the gravity scheme the value of the 195 feet difference of head in delivery to San Francisco, Mr. Grunsky finds that for a 200 million gallons daily supply the pumping proposition is slightly more economical; but he states that for a greater supply than this a filtration plant will be necessary to take care of the additional demand.

The estimated cost of plant and capitalized cost of operation for a Feather River supply of 60 million gallons daily is about 40 per cent greater than the estimated cost for supplying an equal quantity of filtered water from the Sacramento. For a 200 million gallons daily supply there is a slight advantage only for the Sacramento River.

7. Yuba River: The entire region drained by the Yuba River has a heavy precipitation. It is also one of very rapid run-off, there being little natural storage in lakes or valleys except at the headwaters of the South Yuba.

Quite extensive reservoir systems have been developed here and are capable of considerable extension. The South Yuba Water Co. furnishes water for mining purposes and for irrigation. The Excelsior Mining & Water Co. is the owner of quite extensive water rights. The Pacific Gas & Electric Co. uses water from both the South and North Forks for power development.

A group of lakes and reservoir sites which are drained by Canyon Creek, a tributary of South Yuba, and with which may be connected, by canal and tunnel, others on the upper Middle Fork, are controlled by W. B. Bourne, president of the Spring Valley Water Co. These constitute what is known as the Bowman Lake system. Reports made to Mr. Bourne on supplying water to San Francisco from the Yuba River with the Bowman Lake system as a nucleus by two engineers, Samuel Storow and W. W. Waggoner, have been made accessible to the board.

These reports contain much valuable, though fragmentary, data as to the yield of the catchment areas of the Bowman Lake system, extending back to the year 1872. Substantially the same plan for developing the supply is followed in each case. The quantities of water estimated upon as dependable are doubtless sufficiently so to justify the necessary expenditure for power development, but are much greater than can be regarded as safe for a city water supply through critical periods.

Mr. Storow goes rather more into detail as to possible yield, and his estimates of a dependable supply are more conservative than those of Mr. Waggoner, and in some instances even more than the results of this investigation show, though the résumé of his report would of itself convey a different impression.

The drainage area of the Bowman Lake system is made up of the following parts:

	Square miles.
Bowman Lake drainage area.....	29.08
Texas Creek drainage area.....	3.99
English Reservoir drainage area.....	11.80
Pass Creek drainage area.....	17.50
Total.....	62.37

Mr. Storow estimates the average run-off from this area at 150.5 million gallons daily, or 2.42 million gallons daily per square mile.

He estimates a conservation, by means of seven reservoirs (see p. 137), with an aggregate capacity of 30,867 million gallons, of 51.4 million gallons daily. This latter is, however, based on the storage of 600 days' supply, which, although proper for the Tuolumne and Stanislaus watersheds, seems more than necessary for this portion of the Yuba, where, it is understood, there are no adverse water rights to reduce the available run-off.

The mass diagram (fig. 15) of flow per square mile from high Yuba River areas gives a mean run-off for six years (1903-1909) of 2.50 million gallons daily per square mile. The most critical season of this period was in 1907-8. A comparison of the mass diagrams of those streams for which there are run-off records both for 1897-98 and for 1907-8 shows that to maintain a given draft storage for the former period would need be 50 per cent greater than for the latter.

Comparison of rainfall records and deductions therefrom as to run-off indicate that the storage required for the most critical periods that have occurred since 1849 may be 50 per cent greater than for 1897-98. (See discussion on rainfall and run-off, p. 72 et seq.) Therefore, with a total storage capacity of 30,867 million gallons, the storage that could safely be applied to regulating the draft in 1907-8 (leaving proper reserve for worse periods) is $30,867 \div 1.50 = 20,578$ million gallons, or for the 62.37 square miles 220 million gallons (675 acre-feet per square mile). Referring again to the Yuba River diagram, 675 acre-feet storage per square mile will equalize a draft of 1.50 million gallons daily per square mile (+10 per cent for evaporation), or a total draft from the system of $1.50 \times 62.37 = 93.56$ million gallons daily. The total storage capacity, 30,867 million gallons, is a 325 days' supply at this rate.

To augment the supply from Bowman Lake system, Mr. Storow proposes to conserve from 180 square miles on the South Yuba, of which is 138 square miles are tributary to South Yuba Water Co.'s system, 18.33 million gallons daily, by means of 10,996 million gallons storage, in reservoirs at Malakoff and Columbia Hill. A storage capacity of 600 days' flow is in this case probably necessary, as prior water rights are very extensive and may take the total run-off through much longer periods annually.

From 169.5 square miles of drainage area on Middle Yuba, exclusive of 11.8 square miles diverted to the Bowman Lake system through the English Reservoir, with an estimated annual run-off of 1.71 million gallons daily per square mile, Mr. Storow, by means of a diverting canal of 750 second-feet capacity and two reservoirs, Sweetland and Shady Creek, at elevation about 2,000 feet, have a combined storage capacity of 30,408 million gallons, estimates a conservation of 50.68 million gallons daily.

The total supply from the Yuba which might thus be available for San Francisco is—

95	M. G. D. from Bowman Lake System	with 30,867 M. G. storage.
18.32	M. G. D. from South Yuba	with 10,996 M. G. storage.
50.68	M. G. D. from Middle Yuba	with 30,408 M. G. storage.

164 M. G. D. total..... with 72,271 M. G. storage.

There are features of the proposed reservoirs at Malakoff, Columbia Hill, Sweetland, and Shady Creek that cause considerable uncertainty as to probable cost of construction and maintenance and as to the quality of the water. At Sweetland a large portion of the reservoir capacity is furnished by old hydraulic mining pits, the high gravel banks of which have stood vertically, or nearly so, for many years. When converted into a reservoir the action of water, especially wave action, would probably cause extensive caving of banks for a long time. The proposed height of this dam is 230 feet.

At Shady Creek the proposed dam is about 3,000 feet long and 180 feet high.

The Columbia Hill dam would be 2,000 feet long and about 200 feet high.

There are numerous mining camps on the Yuba River watershed, but these are situated mostly below the proposed points of diversion, and the drainage from them may be readily excluded from the ditches or conduits.

Three power plants are proposed: The first, called the Starr power plant, uses the water from Bowman Lake system under a head of about 2,000 feet; the second, called Waggoner, located on the South Yuba, about 22 miles below the Starr plant, will have a head of about 700 feet; the third, called the Bourn plant, uses, under a head of about 1,200 feet, the water that passes through the Starr and Waggoner plants and, in addition, that which is obtained from the Middle Yuba. The power so developed is more than sufficient to do the necessary pumping for delivering the water into Crystal Springs Reservoir.

The route proposed by Mr. Storow, which is also an alternate route proposed by Mr. Waggoner, would deliver the Yuba water to a connection with the Spring Valley's pipes in the Livermore Valley.

But for a supply coming from the north, designed to serve the metropolitan district about San Francisco Bay, it would not be economical to carry it all around the cities of Oakland, Berkeley, and Alameda to the San Francisco peninsula.

The safe dependable supply, not requiring filtration, which it has been estimated above could be obtained from the Yuba River, is 164 million gallons daily. For a larger supply, such as 400 million gallons daily, estimated necessary for the metropolitan district of San Francisco by the close of the present century, the run-off from a much larger portion of the Yuba River watershed would have to be used. There is a catchment area of 1,220 square miles above the proposed point of diversion at junction of the North and South Forks.

The supply, which can be controlled by the reservoir system described above, together with the natural discharge from the remainder of the watershed, regulated to a considerable extent now, and to a greater extent in the future by reservoirs of power companies which use the water above the point of diversion, can doubtless be brought up to 400 million gallons daily. Such a supply would need purification.

For a filtered supply or one requiring long-time storage along the line of conduit, the Yuba River has no advantage over the Feather, except possibly a little more favorable crossing of the Sacramento Valley between Rocklin and Woodland, or the route proposed by Mr. Storow, instead of crossing the Sutter Basin to Marysville Buttes, thence across the Sacramento River and Colusa Basin to the vicinity of Arbuckle, which Mr. Grunsky proposes for both the Yuba and Feather River conduits.

The cost estimate for an unfiltered supply of 164 million gallons daily, given on page 137, is for delivery by gravity to San Francisco, no part of it being allowed for the cities on the east side of the bay.

The aqueduct line follows generally the route suggested by Mr. Grunsky to the west side of Sacramento Valley; thence along the line proposed for the Mount Shasta Aqueduct from about Cache Creek to San Francisco. A profile of the Mount Shasta Aqueduct line is shown on Plate III.

This gravity conduit, with intake about 150 feet higher than proposed by Mr. Grunsky, of course requires larger and heavier pipe across Sacramento Valley than would one delivering water at about sea level in the vicinity of Carquinez Straits, where it would have to be pumped to a sufficient elevation for delivery to San Francisco.

8. American River: The American River, above the gauging station at Fair Oaks, drains an area of 1,910 square miles. The average run-off per square mile from the higher portion of this area is about 10 per cent less than that from the Yuba River, but it is considerably greater than that from the mountain areas to the south. As on all the other Sierra streams the claimed appropriations of water greatly exceed the total low-water flow. The question of the validity of many of these claims can be determined only by the courts. The power plant of the Pacific Gas & Electric Co., at Folsom, has a capacity of 1,750 second-feet, which alone exceeds the natural flow of the river for from three to six months each year. On account of its low elevation, and of probable contamination, water passing through this power plant can not be considered as a practicable supply for San Francisco.

There are several actual diversions from the river for irrigation and mining purposes and rights of others claimed. On some of the latter the necessary legal requirements as to prosecution of development work are being complied with, so that in time they too will become vested rights.

There are also other water-power plants and water-power projects in embryo, which depend mostly on stored water. These do, or will, return the water to the river above the points where diversion would need be made to a conduit for delivering water to San Francisco.

With the exception of a few reservoir sites on the Rubicon River, which form part of a power project now being developed, and one on Silver Creek which, on account of apparent desirability as shown on topographic sheet of United States Geological Survey, was examined by me in September, 1911, and found to have just been surveyed by the Western States Power Co. for a reinforcement of its power plant, practically all of the reservoirs or suggested sites on the American River watershed are located at high altitudes and have very limited drainage areas.

Several different combinations of portions of the American River watershed or combinations with drainage areas of adjacent watersheds, affording greater or better storage, are possible.

Two propositions, neither of them recent, have been made to the city for furnishing water from the American and adjacent watersheds. They will be discussed separately under headings 8a and 8b.

Sa. Giant Gap water supply: This proposition, made in 1901, was for a daily supply of 45 million gallons from 212 square miles drainage area and with 39,000 million gallons storage capacity. One of the proponents has informed me that on account of inaccuracies in estimates of reservoirs (some being too large and some too small) the total capacity of the nine reservoirs would be about 25,000 or 30,000 million gallons. This would be ample for the daily supply named.

This scheme has since been enlarged, though neither has a new proposition been made to San Francisco nor are the necessary properties in the control of the proponents, to embrace diversion from the Yuba (South Yuba and Bowman Lake) and larger portions of the American watershed, making a total drainage area of over 800 square miles.

Some of the developments proposed are being made or are under consideration by other parties, but the combinations proposed may be possible. The Giant Gap project contemplates producing a continuous flow of 835 cubic feet per second (540 million gallons daily), of which 441 second-feet (285 million gallons daily) are for city supplies, the rest for irrigation and power only.

The report on this project by Russel L. Dunn, consulting engineer, gives no estimates of reservoir capacities, but, combining those of the smaller and earlier Giant Gap proposition with those of two other schemes, which this one proposes to absorb and on which estimates of reservoir capacities have been obtained, gives a total of about 105,000 million gallons. The 800 square miles of drainage area with this storage capacity would yield a continuous flow greater than claimed through the driest period if there were no prior rights to allow for.

As has been stated, the latter are quite extensive. Assuming that they are so great that storage for 400 days' supply may be necessary for driest period, the storage named would furnish 262 million gallons daily, leaving none of the storage available for power or irrigation.

No comparative estimate of cost has been made for a water supply under this scheme on account of lack of data. The pipe line under pressure would start from about the same point as in the Yuba River scheme (Rocklin-Woodland Route) and consequently the cost from that point for an equivalent supply would be about the same. If the other interests already mentioned could be harmonized, the indications are that the total cost of a Giant Gap supply would not exceed one of equal volume from the Yuba, and it might be considerably less.

Sb. American-Cosumnes, or Bay cities project: Of the several propositions that have been made to the city for furnishing a source of supply, this one has been most prominently (excepting only the Tuolumne) before the public. In 1906 a proposition was made to the city for the sale of the properties and rights of the Bay Cities Water Co. on the American and Cosumnes Rivers. The merits of this source of supply were clouded by the political situation at that time, and allegations of graft in connection with the proposition were made.

Notwithstanding the unfortunate circumstances attending its exploitation, the possible development of the American-Cosumnes water supply has been more thoroughly studied, or, at any rate, the results of studies which have been made available to this board are much more comprehensive than in the case of other sources under consideration.

The drainage area from which the Bay Cities Water Co. proposed to obtain its supply consists of 238 square miles on the South Fork of American River running up to the summits of the Sierras, and 158 square miles on the Cosumnes River, making a total of 396 square miles. Within this area 18 reservoirs, with aggregate capacity of 104,900 million gallons, have been surveyed.

Edwin Duryea, jr., chief engineer, Bay Cities Water Co., estimates the continuous and dependable water supply at 317,000,000 gallons per day. He also estimates that the fully developed American River area, with the Sly Park Creek area of the Cosumnes added, would supply 215 million gallons daily.

The Bay Cities Water Co. has not at present a proposition before the city of San Francisco for supplying water from the Sierras. The rights which it acquired on the Cosumnes are no longer held by it.

On account of the insufficiency of reservoir capacity on the American at locations other than in close proximity to the crest of the mountains, the inclusion of Sly Park Creek, with 18 square miles of drainage area and the reservoir site, of large capacity, at Sly Park, is necessary for the economical conservation of American River water. Sly Park is at an elevation of about 3,500 feet. It is at about the uppermost point, on its watershed, permanently occupied. The reservoir site is now used for meadow and agricultural purposes.

For its larger supply the Bay Cities Co. proposed to use all of the Cosumnes River watershed above Bucks Bar, at which point was to be another large reservoir. Bucks Bar is at elevation 1,600 feet. The permanent population on the tributary drainage area is very small, but there is enough to require some supervision over it. This is not considered so desirable a catchment area for an unfiltered supply as others with which comparisons are made, and its possibilities are not further considered.

On the drainage area of South Fork of American, above its point of diversion at Slippery Ford and the tunnel through the ridge separating it from the Cosumnes watershed and on the Sly Park portion of the latter, are the following named reservoir sites with capacities and tributary drainage areas as given:

Reservoir.	Catchment area.	Capacity.		
		Million gallons.	Total.	Per square mile.
	Square miles.		Acres.	Acres.
Silver Lake.....	15.3	16,570	50,800	3,320
Twin Lakes.....	13.0	7,640	23,400	1,600
Upper Caples Fork.....		1,650	5,000	
Lower Caples Fork.....	20.2	2,200	6,750	707
Kirkwood Meadows.....		500	2,450	
Audrain Lake.....		1,900	5,830	
Echo Lake.....	5.9	7,760	23,800	5,040
Medley Lakes.....	1.8	9,390	28,600	16,000
Alder Creek.....	17.6	6,700	20,550	1,165
Slippery Ford.....		9,000	27,600	
Sly Park.....	18.4	11,000	33,750	1,830
Total.....		74,610	228,790	

A study of these figures, together with the mass diagram of flow per square mile from high areas of American River (fig. 15), shows that each of the reservoirs excepting those on Caples Fork and Alder Creek and the one at Slippery Ford have greater capacity than needed to equalize the run-off from its drainage area through the period 1907-1909. In the case of the Medley Lakes the excess capacity is so great that it would require the accumulated run-off of several years to fill it, and when filled the loss by evaporation would be greater than the mean run-off for the two seasons 1907-1909.

The excess capacity of Sly Park is needed to aid in conservation of the flow of the South Fork of American.

The three reservoirs on Caples Fork are very uneconomical in regard to amount of material required for dams in proportion to volume of water stored. Eliminating these and reducing the Medley Lakes capacity to 9,000 acre-feet makes the total available storage 194,700 acre-feet.

A period which has been assumed to require the greatest storage capacity is one requiring two and a quarter times (1.50×1.50) that for an equal draft for the period 1907-1909. (See discussion on Yuba River.) Therefore, the portion of the total capacity that could be properly applied to the regulation of the discharge of the latter season is the total capacity divided by 2.25.

A storage capacity of 194,700 acre-feet ÷ 2.25 = 86,500 acre-feet in connection with the run-off from 256 square miles (238 on American and 18 on Sly Park Creek) would yield, according to the mass diagram (fig. 15), 215 million gallons daily.

Through the assumed worst possible season the total storage capacity (194,700 acre-feet) would permit the same daily draft.

The above figures make no allowance for adverse prior rights, it being understood that the Bay Cities Co. owns all of those on the South Fork of the American; and that those on Sly Park Creek may be reasonably acquired.

The plans of Bay Cities Water Co. so far as outlined in their offer to the city contemplated a power plant at Cat Point, using water from a high and from a low level canal. The latter would be eliminated with the Bucks Bar reservoir and drainage area.

A considerable portion of the report on the American-Cosumnes project by J. H. Dockweiler, submitted August 1, 1912, is devoted to the water requirements of adjacent areas in the Sacramento Valley and foothills.

The conclusion of an investigation "based on the broad theory of water conservation" is "that all water rights, commercial industries, and irrigable lands having claim upon the waters of the drainage areas of the American-Cosumnes project can be fully and justly met and still leave available for San Francisco and the bay cities 223.6 million gallons daily."

For a yield of this quantity Mr. Dockweiler includes the drainage area tributary to Bucks Bar below Sly Park.

The dependable yield of 215 million gallons daily, estimated by me, was for a catchment area, including only 18 square miles on the Cosumnes River, instead of 158. This yield agrees with Mr. Duryea's for the same catchment area. An estimate of cost of a 215 million gallon daily supply from the American-Cosumnes, combined with one of 128 million gallons daily from the Mokelumne and of 57 million gallons daily from the Stanislaus, making a total of 400 million gallons daily, will be found on pages 133-134.

9. Lake Tahoe: Several schemes have been proposed for extensive utilization of the waters of Lake Tahoe by diverting them by means of tunnels to the west slope of the Sierras and to the east slope of the divide separating the lake from the Carson River in Nevada.

For power production, diversion to the west offers great attraction on account of the much greater possible head under which the water may be used than is possible along the Truckee River or by diversion to Carson Valley.

But there are now several power plants on the Truckee, and the Truckee-Carson irrigation project uses a large volume of water and contemplates greater use, this latter being dependent on large storage capacity.

An engineer's report, dated October, 1908, on the utilization of Lake Tahoe water for a municipal supply was submitted to the board in July, 1911. Two of the features of this report were claims to the flow from Lake Tahoe up to 1,200 second-feet, and estimate of a continuous dependable supply of 561 second-feet.

The United States Geological Survey records of the discharge from Lake Tahoe for the nine seasons, 1900-1901 to 1908-9, show a mean daily discharge ranging from 123 second-feet to 870 second-feet, the average for the nine seasons being 426 second-feet (275 million gallons daily). During the years 1908-9 the flow at no time exceeded 900 second-feet.

On account of the extensive use of this water, present and prospective, in the region through which it has its natural outlet, it has not seemed necessary to inquire into the practicability of sufficient storage to regulate the flow to the mean of the nine-year period. Since the extreme variation in seasonal discharge from the lake during the nine years corresponds to a depth of water over its surface of but little more than 4 feet there should be no difficulty in this, and probably not to equalize the discharge at the same rate through much drier periods than those for which there are records.

The reason for the comparatively small run-off for so large a drainage area is not due so much to the fact that it lies on the east side of the Sierra divide as to the large proportion of the drainage area occupied by the lake itself, with consequent large evaporation loss. The area of the lake is about 193 square miles and of the drainage area (including the lake) 519 square miles.

10. Mokelumne River: Water supply investigations made for the city of San Francisco, 1874-1877, resulted in the recommendation, by Col. G. H. Mendell to the board of water commissioners, of the Mokelumne River for a source of supply.

In Col. Mendell's report occurs the statement that for a conduit of 25,000,000 gallons daily supply there should be 2,000,000,000 gallons (an 80 days' supply). For so small a supply from a stream on which the use of water had not been greatly developed, although rights to large volumes of the flow of the stream were claimed, the necessity for very great storage capacity was not so apparent as at present. For the much larger daily yield now sought from drainage areas in the Sierras, storage capacity of from 300 to 900 days' supply is needed, depending on the area of the watershed, its run-off depth, and the extent to which other uses of the flow of the stream must be allowed for.

Russel L. Dunn, consulting engineer, in report dated July 30, 1908, to the Sierra Nevada Water & Power Co., estimates that with the storage capacity (20,000,000,000 gallons) afforded at Rail Road Flat Reservoir site, at junction of South and Licking Forks of Mokelumne River, with a dam 290 feet high, and with 536 square miles of drainage area, most of which is not naturally tributary to this reservoir but is to be

made so by diverting canals, 125,000,000 gallons daily is the limiting quantity of water that could be supplied to San Francisco through a year like 1898.

The rights of the Sierra Nevada Water & Power Co. were based primarily on filings made by W. V. Clark, sr., in 1856 and subsequently. The actual use at present made by the successors of Clark is very little.

The Sierra Blue Lakes Water & Power Co. has succeeded to the rights of the Sierra Nevada Water & Power Co. and has filed on others. It has made offers for the acquirement of its rights and properties by San Francisco and claims they will yield 200,000,000 gallons daily. Some of its later publications claim a daily capacity of 500,000,000 gallons. The rights to water now used, which must be allowed for in estimating the yield from the upper Mokelumne River drainage area, are:

"Pacific Gas & Electric Co., 175 second-feet, of which 77 second-feet may be diverted from the drainage area (old Amador Canal)."
"Mokelumne River Power & Water Co. (Prindle ditch), 75 second-feet."

"Woodbridge Canal, 62.5 second-feet, from April to September." (As the point of diversion for this canal is below the power plant of the Pacific Gas & Electric Co. the water from the latter may again be used.)

Other claims which must be considered are those of the Mokelumne Power & Water Co. to 250 second-feet of flood-water flow of Middle Fork, for the diversion of which to Calaveras Valley a ditch is now under construction, and the Mokelumne River Power Co. to 175 second-feet of flood water of the North Fork, which it proposes to store in a reservoir located on this fork above the mouth of Moore Creek.

The records of the United States Forestry Service show that filings for this reservoir site antedate those of Sierra Blue Lakes Water & Power Co. for the site at mouth of Blue Creek.

No extensive use of Mokelumne River water for irrigation is made at present, but a study of the location of lands in the Sacramento and San Joaquin Valleys, which are irrigated, and their relation to the drainage areas from which the water comes for their irrigation, does not confirm the statements of advocates of the Sierra Blue Lakes scheme that the waters of the Mokelumne are not needed for irrigation.

In fact it appears that the ratio of catchment area to the dependent irrigable area is less in the case of the Mokelumne than in the case of either the Stanislaus or the Tuolumne. The difference is partly compensated for by somewhat greater precipitation on the Mokelumne areas.

Mr. Grunsky's report, submitted August 1, 1912, takes up the subject of irrigation needs of the district that would properly be served by the Mokelumne. He estimates that there are 200,000 acres, requiring 600,000 acre-feet of water annually. (See additional discussion of irrigation needs on p. 101.)

The reservoirs now proposed by the Sierra Blue Lakes Water & Power Co. for the conservation of its Mokelumne River supply, with their capacities, depths of water, and approximate heights of dam, are as follows:

Location.	Depth of water.	Approximate total height of dam.	Capacity.	
			Acre-feet.	Million gallons.
Junction of South and Licking Forks, Mokelumne River (Rail Road Flat).....	Feet. 300	Feet. 325	66,000	21,500
North Fork of Mokelumne River at mouth of Blue Creek.....	300	325	86,000	28,000
Forest Creek or North Branch of Middle Fork of Mokelumne River.....	110	125	2,800	915
Blue Lakes.....		36	(1)	(1)

¹ See following.

The capacities given for the Rail Road Flat and North Fork Reservoirs were determined from surveys made by the city of San Francisco after reconnaissance had been made by me. The dams required are very large in proportion to storage capacity. The capacities of Forest Creek Reservoir were determined from my reconnaissance survey. The capacities claimed by the proponents of the "Blue Lakes" scheme are much in excess of these.

Storage at the Blue Lakes is now used by the Pacific Gas & Electric Co. in connection with its power plant at Electra. The right to raise the Blue Lakes Dams and to use the additional storage, claimed by the Blue Lakes Co. (and backed by legal opinion) is of very little value, as the present capacity conserves practically all of the run-off from the catchment area, $\frac{1}{4}$ square miles.

The Mokelumne River mass diagrams (fig. 16) show the estimated run-off for several periods from the 642 square miles of drainage area above the gaging station near Clements and for portions of the watershed tributary to the reservoirs and diverting canals proposed by the Sierra Blue Lakes Water & Power Co. as follows:

Lines marked "A" show total discharge at station near Clements. Lines marked "B" show total discharge at point of diversion, on North Fork, to Electra power station for three periods—1886-1890, 1897-1899, and 1907-1909.

Lines marked "C" show water available to Sierra Blue Lakes Water & Power Co. at the site of its proposed North Fork Reservoir, after allowing 175 second-feet (or total flow when less than this) to Electra power plant and Amador Canal, as long as that flow can be maintained with the aid of 24,800 acre-feet storage. This is the combined storage capacity of three reservoirs of the Pacific Gas & Electric Co., Blue Lakes, Meadow Lake, and Bear River. The claims of the Mokelumne River Power Co. are ignored in this diagram.

Lines marked "D" show water available to Sierra Blue Lakes Water & Power Co. at same point as above, after allowing 350 second-feet (or total flow when less than this) to Electra power plant and Mokelumne River Power Co. as long as that flow can be maintained with the aid of 76,300 acre-feet storage. This is the combined storage capacity of Pacific Gas & Electric Co., as above, and of the proposed reservoir of the Mokelumne River Power Co. on the North Fork, above Moore Creek.

Lines marked "E" show water available to Sierra Blue Lakes Water & Power Co. from Middle, Licking, and South Forks after allowing 75 second-feet (and the entire flow when less) to Mokelumne River Power & Water Co. (Prindle ditch).

Lines marked "F" show water available to Sierra Blue Lakes Water & Power Co. from Middle, Licking, and South Forks after

deducting the flow from 25.2 square miles of Middle Fork (above Prindle's proposed diversion to Calaveras Reservoir) up to 250 second-feet (capacity of Prindle's proposed diverting ditch) at times when flow at Rail Road Flat Reservoir is in excess of 150 second-feet (the approximate combined capacity of the old Prindle and Clark ditches). With the reservoir capacities shown on page 98 the possible draft during critical periods as shown by the lines D and F are:

	Million gallons daily.
For period 1887-1889:	
From North Fork.....	114
From South, Middle, and Licking Forks.....	70
Total.....	184
For period 1897-1899:	
From North Fork.....	120
From South, Middle, and Licking Forks.....	65
Total.....	185
For period 1907-1909:	
From North Fork.....	111
From South, Middle, and Licking Forks.....	81
Total.....	192

In accordance with the deductions from rainfall data as to the possible conservation during the most critical periods that have occurred since 1849 (see p. 78), which have been applied to other catchment areas, the safe dependable continuous yield from these areas with the given reservoir capacity, holding one-third of this capacity in reserve for periods drier than any of those shown by diagram, is 128 million gallons daily.

To increase the dependable yield through the driest periods to that shown possible through several dry periods, viz., 185,000,000 gallons daily, and to allow for the same prior rights, an increase of 50 per cent, or 77,000 acre-feet, in storage capacity is necessary. This additional capacity for use during extremely dry seasons only might be so located as to be filled during extremely wet seasons only. Surveys made by the United States Geological Survey on the Mokelumne River catchment area have covered three sites, all above elevation 7,000 feet, aggregating 2,530 acre-feet capacity, only about 3 per cent of required increase.

The draft possibilities from this system could be increased considerably by including in the catchment area contributory to the supply the territory between the reservoirs on the North Fork and at Rail Road Flat and the point of final diversion to conduit below Rich Gulch. But within this territory are several small settlements and a number of ranches. Its exclusion conforms to the manner of treating the other sources of supply. The catchment area from which the proposed supply would be taken has very few permanent inhabitants. For a few months each year it is used for cattle grazing.

By combination of the Sierra Blue Lakes Water & Power Co.'s appropriations of water and reservoir sites with the rights of other appropriations, as, e. g., the Mokelumne River Power Co., or of this company and the Pacific Gas & Electric Co. on the North Fork, and diverting the water below the Electra power plant, or with the Mokelumne River Power & Water Co. (Prindle Ditch) on the South and Middle Forks, the yield may be greatly increased.

The lines B, C, and E of the mass diagram afford the means of determining the possibilities of such combinations.

Claims made by this company to a reservoir site at Case Valley and to water rights on the Cosumnes River can not properly be considered in connection with the Mokelumne River, as such a combination is not feasible.

To determine the storage capacity necessary to meet an annual irrigation requirement of 500,000 acre-feet (2.5 feet depth over 200,000 acres, instead of 3 feet depth assumed by Mr. Grunsky), together with that needed to insure for San Francisco a dependable supply through all seasons of 128,000,000 gallons daily, as determined above, an application to the mass diagram of discharge at Clements (lines A on fig. 16) of draft lines (not shown) for 128,000,000 gallons daily, plus 500,000 acre-feet distributed uniformly through seven months (March to September, inclusive), shows that 250,000 acre-feet storage would be sufficient for any period shown except 1898-99, when about 500,000 acre-feet would have been required.

Mr. Grunsky's deductions are not inconsistent with these. He shows that to have supplied 200,000,000 gallons daily and to have met an annual irrigation requirement of 600,000 acre-feet a storage capacity of 1,000,000 acre-feet would have been required for the period 1898-1900, but he states that "with storage in half this amount there would be a deficiency only in the rare case of such a critical period as that of 1897-1900."

The existing and proposed reservoirs of operating power companies, together with a number of small-capacity reservoirs at sites that have been reported upon by various parties, would give the storage capacity in addition to that required for a 128,000,000 gallons daily supply required for full irrigation on the basis assumed by me above, except through extremely dry periods.

For estimate of cost of a Mokelumne supply in two different combinations to make a total of 400,000,000 gallons daily, see pages 131-132.

11. Stanislaus River: The watershed of the Stanislaus River lies between those of the Mokelumne and Tuolumne. The situation, so far as a possible city water supply is concerned, is controlled by the Sierra & San Francisco Power Co., which now furnishes power to the United Railroads of San Francisco. This company has a power plant at Stanislaus, at the junction of the North and Middle Forks of the Stanislaus River, which has a capacity of 400 cubic feet per second.

According to the statement of the manager of the company there is now, with one reservoir of 15,800 acre-feet storage capacity constructed, a dependable low-water flow through its canal to the power house from Sand Bar Flat, on the Middle Fork, of 132 cubic feet per second, or 85,000,000 gallons daily.

The mass diagrams (fig. 17) show this to be true for all seasons since records of the flow of the river have been kept by the company, or since 1905. Through a year like 1898 there would have been but little shortage. The entire dry-weather flow may be used for generating power, since the water is returned to the river above the points of use by prior appropriators; but for a supply for diversion outside of the watershed only water in excess of prior rights on the stream below can be used.

Two irrigation districts, the Oakdale and the South San Joaquin, claim the natural flow of the river up to 1,700 cubic feet per second. These districts are now constructing works to enable them to use the water to much better advantage than heretofore. Other small appropriations bring the total well up toward the 2,000 second-feet allowed in computing quantities for mass diagrams of water which might be made available for the use of San Francisco.

The necessary allowance for prior rights constitutes so large a portion of the total flow that, for a period like 1897-1899, draft would have to be entirely from storage for 21 months. During 1907-1909 there was a period of 17 months during which the natural flow that could have been diverted amounted to only about 10,000,000 gallons, or a 50-days' supply of 200,000,000 gallons daily. Greater storage in proportion to the daily yield is needed than for any of the other sources studied. Additional catchment area, without additional storage, will not increase the yield; compare mass diagram for the 615 square miles above the confluence of North and Middle Forks with that for the 320 square miles above Sand Bar Flat.

The Sierra & San Francisco Power Co. has guarded against other parties using the water stored by its reservoirs after it passes the Stanislaus power plant by itself acquiring a power plant near Knights Ferry, well down in the foothills, and using it again under a head of 14 feet. From surveys made for the Sierra & San Francisco Power Co. and from maps filed with applications for use of reservoir sites on public lands, there has been estimated a storage capacity of 170,000 acre-feet on the Middle Fork of the Stanislaus River. With this storage there could have been supplied through the dry period 1907-1909, 118,000,000 gallons daily; through the longer dry period 1897-1899, 81,000,000 gallons daily; and through the assumed longest possible dry period, as in the case of other sources, 57,000,000 gallons daily. The estimated storage capacity is equivalent to 975 days' supply at this rate.

Mr. Grunsky, in his report of July 31, 1912, after discussing the developments made by the Sierra & San Francisco Power Co. and its predecessors; and the irrigation needs of the lands, rather than the appropriations of the districts, dependent on the Stanislaus River, says:

"It does not seem reasonable to hope for an extension of such a project [supply from Stanislaus] to a greater capacity than 60,000,000 gallons per day, and even this amount it may be difficult, if not impossible, to secure continuously."

Compare with this statement, the 57,000,000 gallons daily estimated capacity above.

The acquirement of the reservoirs and water rights of the Sierra & San Francisco Power Co. for a water supply would properly involve also the purchase of the power plants of that company, which have a capacity to use much more water than could be diverted to San Francisco.

A proposition made a few years ago by this company to San Francisco for furnishing water explicitly stated that it would grant no power rights. The power developed is now used by the United Railroads of San Francisco. Presumably there may be considerable extension of its use in this direction.

In the estimates of cost of a supply from the Stanislaus in combination with other supplies to make a total of 400,000,000 gallons daily, the possibility of utilization of power from this river is not taken into account.

12. Tuolumne River: Above the United States Geological Survey station at La Grange the Tuolumne River has a drainage area of 1,500 square miles.

At La Grange Dam water is diverted to the canals of the Turlock and Modesto irrigation districts. Much has been said and written about guarding the water rights of these districts and supplying its further needs and those of adjacent lands which must look to the Tuolumne, if at all, for water.

Edwin Duryea, jr., chief engineer, Bay Cities Water Co., several years ago, prepared a voluminous discussion of the subject, tending to show that these land requirements and San Francisco's needs can not be supplied from the Tuolumne. This conclusion was based on the assumption that the capacities of reservoirs at Hetch Hetchy Valley and at Lake Eleanor, as given in the reports of C. E. Grunsky, former city engineer, were the limiting ones, and that those for several other reservoir sites, as published in reports of the United States Geological Survey, made up the total available storage capacity (270,000 acre-feet).

Even had this been the case there would have been no legal rights of the Turlock and Modesto districts interfered with so long as no water was stored by San Francisco except when the flow of the river at La Grange exceeded the amount of those districts' appropriations, viz: 2,350 cubic feet per second. But in the light of the fact that much greater storage is possible, a further investigation as to irrigation needs and their effects, if provided for, on a city water supply from the Tuolumne has been made.

It is now a well-recognized fact that the lands of many districts have been greatly overirrigated, and expensive subdrainage works have in some cases become necessary to restore them to fertility.

Mr. Burton Smith, superintendent of the Turlock Irrigation district, says, December 31, 1910, that under present conditions, i. e., with no storage, the water supply is exhausted about the middle of July each year.

"This creates a desire among the irrigators to give the land an overdose of water during the irrigation season."

This causes the water table to fluctuate rapidly and creates a condition very damaging to most crops. With a storage reservoir which the district now plans to construct it is not expected that more water will be used, but that it will be more advantageously distributed. Mr. Smith says that at present about 3½ feet depth of water is used on the lands irrigated, and that he thinks 2½ feet will be ample.

In the report filed by the Turlock and Modesto districts on November 1 the need of a depth of 2.75 feet on the land annually is claimed. Among the showings made by them are results of experiments at the California State farm at Davis on growing alfalfa, which requires more water than most crops. These show that a depth of 2½ feet gives more economical results than either a greater or less quantity.

The combined area of the Turlock and Modesto districts is 402 square miles. It has been estimated, according to some of the earlier discussions, that an additional area, amounting to 60 per cent of the above, or a total of 643 square miles (411,520 acres), is dependent upon the Tuolumne for irrigation.

A map issued by the United States Department of Agriculture in cooperation with the conservation commission of California, an advance copy of which has been furnished the board, shows that the total area of irrigable lands east of the San Joaquin River and extending from the Stanislaus River on the north to the Merced River on the south, excepting so much of this area as is included in the Oakdale irrigation

district, which takes its water from the Stanislaus, is approximately 690 square miles.

Six hundred and forty-three square miles is considered a generous estimate of the area dependent on the Tuolumne for water.

The report by J. H. Dockweiler, on the needs of Turlock and Modesto irrigation districts, submitted June 30, 1912, not only does not recognize any appreciable area outside the Turlock and Modesto districts dependent upon the Tuolumne for water, but, considering the water-logged condition of some of the lands within the district, estimates the maximum acreage requiring irrigation in any year at 206,000.

In view of the fact that the water-logged condition is only a temporary one, drainage being readily obtainable by ditching, and the further fact that applications for admission to the districts have been made by the owners of adjacent lands, there seems no necessity for so belittling the irrigation needs.

It may quite possibly be that the area outside of Turlock and Modesto districts estimated above as dependent on the Tuolumne for water is somewhat too large, but if so, there is a thirsty area on west side of San Joaquin to which excess water could be piped and where it could be advantageously used.

It is probable, however, that the present practice of irrigating such of the west side lands as can not be reached by gravity ditches, viz, by pumping from the San Joaquin River, is the more economical.

With increased use and better distribution of water on the east side, made possible by storage, the seepage back into the river will increase the supply available for such pumping.

For this investigation no change has been made in the area, as noted above, which might properly be irrigated from the Tuolumne.

Assuming that 85 per cent of the land will in time be irrigated, allowing for roads, buildings, corrals, etc., and that there may be a 15 per cent loss by seepage and evaporation in ditches, 2½ feet depth for the total acreage, measured at head gates, will suffice.

For the purpose of this investigation the use of irrigation water is assumed to be distributed through the season as follows:

	Feet.	Cumulative sums.
January.....	0.09	0.09
February.....	.09	.18
March.....	.17	.35
April.....	.38	.73
May.....	.38	1.11
June.....	.38	1.49
July.....	.38	1.87
August.....	.38	2.25
September.....	.38	2.63
October.....	.17	2.80
November.....	.09	2.89
December.....	.09	2.98
Total.....	2.50	

Mr. Dockweiler estimates an annual requirement of 2.5 feet depth of water on the land, but he assumes a distribution of this water pro rata to the actual distribution of 1911, which obtained simply because no better distribution was possible without much greater storage capacity. Such a distribution, with the maximum rate of application of water to the land conforming in time to the maximum rate of discharge of the river, enables Mr. Dockweiler to show necessity for comparatively small reservoir capacity.

The following table shows the distribution of 2½ feet depth of water through the year, proposed by Mr. Grunsky in his reports on the Mokelumne and Stanislaus Rivers, and the same total quantity distributed according to the monthly percentages stated in the report of the Turlock and Modesto districts to be the probable average use:

	C. E. Grunsky.		Turlock and Modesto districts.	
	Monthly depths.	Cumulative sums.	Monthly depths.	Cumulative sums.
January.....	0.025	0.025	0.059	0.059
February.....	.059	.075	.075	.134
March.....	.100	.175	.100	.234
April.....	.200	.375	.200	.434
May.....	.375	.750	.375	.809
June.....	.500	1.250	.400	1.209
July.....	.450	1.700	.400	1.609
August.....	.375	2.075	.350	1.959
September.....	.250	2.325	.325	2.284
October.....	.125	2.450	.150	2.434
November.....	.025	2.475	.059	2.493
December.....	.025	2.500	.025	2.500

According to each of these proposed distributions the total to the end of June is practically the same as assumed by me above, and the variations (especially after June) are so slight as not to affect storage necessities.

Two and one-half feet depth over 643 square miles amounts to 1,023,800 acre-feet, or, allowing 10 per cent for evaporation from reservoirs and other losses above head gates or elsewhere not covered by 15 per cent allowance previously made, the total annual need will be 1,132,000 acre-feet.

Compare with this estimated need (1,132,000 acre-feet) of the greatest area that can be considered as dependent for irrigation on the Tuolumne River for water, the conclusions of the Turlock and Modesto districts (report of Nov. 1, 1912) that "the maximum quantity used from the river in any one year will not be less than 1,042,043 acre-feet."

The former quantity is based on 2.5 feet depth over 85 per cent of 643 square miles area, with total loss by evaporation and seepage of 23 per cent; while the latter quantity is based on 2.75 feet depth over 90 per cent of 402 square miles area, with evaporation and seepage losses of 39 per cent.

On the next page is a mass diagram of the total flow of the Tuolumne at La Grange from 1895 to 1912. There is also shown for the years 1896-1900, the yield of the Turlock and Modesto appropriations, i. e., 2,350 second-feet, when the flow was so much, or more, and the entire flow when it was less.

In the lower right-hand corner are shown four draft lines, one for 400,000,000 gallons daily, one for the irrigation requirements as above (1,132,000 acre-feet annually), one for these two combined, and one for the irrigation needs of the 402 square miles constituting the Turlock and Modesto districts on the basis of 2.5 acre-feet per year, with 85 per cent of the land under irrigation.

The combined draft line, applied to the mass diagram, shows that the combined requirements of 400 million gallons daily for the city and 2½ acre-feet per acre per year for 643 square miles could be supplied by the river with annual drafts from storage of from 300,000 to 700,000 acre-feet, excepting only the years 1898, 1908, and 1912.

To have permitted full irrigation through 1898 and the two succeeding years a storage capacity of 1,400,000 acre-feet would have been required; for the year 1908, 890,000 acre-feet.

In 1912 the depletion of storage up to October 31, would have amounted to 900,000 acre-feet, or practically the same amount as on December 31, 1908.

With a total storage capacity of 750,000 acre-feet, or 50,000 more than the maximum required for full irrigation during other years than these, there would have been, after allowing the full draft of 400 million gallons daily for city supply, in 1898, a shortage of about 40 per cent in water for irrigation, i. e., a depth of 1.5 feet only could have been applied to the land that season instead of 2.5 feet. Likewise the shortage in 1908 would have been about 14 per cent, i. e., 2.15 feet could have been applied to the land.

Similarly a comparison of the needs of the 402 square miles comprising the Turlock and Modesto districts, with the yield of their water rights, shows that to supply from these rights alone 2.5 feet depth of water over the irrigable area a storage capacity of 270,000 acre-feet would have been sufficient for any of the years except 1898, when an additional storage of 100,000 acre-feet would have been required; or there would have been a shortage of about 16 per cent for that year.

As a result of statements made at the hearing before the Secretary of the Interior at Washington, November 25 to 30, 1912, the question arose as to whether the conservation of Tuolumne River water to the extent described above was not dependent on the use of water from the areas outside of the Hetch Hetchy, Lake Eleanor, and Cherry Valley watersheds to an extent impossible of attainment, on account of lack of storage possibility on these outside areas or at locations to which the water could be diverted.

Further study has been given this question. A mass diagram of the run-off from the 848 square miles (1,500-652) in question, for the years from 1895 to 1901, has been plotted, taking for each month the difference between the measured run-off at La Grange and the estimated run-off for the Hetch Hetchy, Lake Eleanor, and Cherry Valley watersheds as previously determined. Then, assuming that 230,000 acre-feet (see lower part of table, p. 111) is all the practicable storage on the watershed in question, and assuming the use of water for irrigation on the basis of 1,132,000 acre-feet per year, with monthly distribution as stated by the engineers of the Turlock and Modesto irrigation districts to be desirable, it was found that, making such distribution of the water so far as could be effected with the stated storage, there would have been wasted in 1897, 460,000 acre-feet, and in 1901, 500,000 acre-feet.

From the total watershed of 1,500 square miles, and with the combined use of water for San Francisco (400 million gallons daily), and for the irrigation of 643 square miles of irrigable lands (see fig. 18), there would have been wasted in 1897, 880,000 acre-feet. In 1901, with total available storage, 750,000 acre-feet, the waste would have been 800,000 acre-feet.

Thus, in 1897 the waste from the 848 square miles would have been 74 per cent less than the proportionate part of the total waste from the whole 1,500 square miles. In 1901 the waste from 848 square miles would have been about 10 per cent more than the proportionate part of the waste from the whole 1,500 square miles.

With greater total available storage than 750,000 acre-feet, as, e. g., 900,000 acre-feet, as was suggested as possible on page 111, there would have been wasted in 1901 about 500,000 acre-feet of the total run-off from the 1,500 square miles, or the same quantity which it has just been shown would necessarily have been wasted from the 848 square miles with 230,000 acre-feet available storage capacity. This simply means that all of the unavoidable waste from the total Tuolumne watershed would have been from the 848 square miles outside of the Hetch Hetchy, Lake Eleanor, and Cherry Valley watersheds.

The conclusion is that the possible conservation of Tuolumne water as previously estimated is not greater than is possible of attainment with reservoirs at the locations and of the capacities stated.

To maintain a constant city supply of 400 million gallons daily from the portions of the Tuolumne River drainage area above Hetch Hetchy Valley, Lake Eleanor, and Cherry Valley through periods like 1897-1900 without interference with the rights of the irrigation districts requires storage capacity of 560,000 acre-feet.

To provide for more critical periods than that of 1897-98, an increase of 50 per cent in storage capacity has been estimated necessary. Reservoirs for this additional capacity may be so located that they may be filled only by several years' run-off, since they need be drawn upon only during the driest periods, such as have been experienced but once since rainfall records have been kept in California, or since 1849.

It may be noted here that a reservoir at Hetch Hetchy 280 feet deep (dam 310 feet high) would afford the necessary storage for 200 million gallons daily, including the necessary reserve of 33 per cent for the driest years.

To summarize: It appears from the foregoing discussion that for periods like 1897-1900:

First. The irrigation requirements of the Turlock and Modesto irrigation districts may be provided by their existing rights if conserved by means of 370,000 acre-feet of storage capacity.

Second. Four hundred million gallons daily may be supplied San Francisco from the high areas without interfering with Turlock and Modesto rights, with 560,000 acre-feet of storage.

Third. The combined requirements of San Francisco, the Turlock, and Modesto districts and 240 square miles additional irrigable area may be supplied from the entire flow of the river with 750,000 acre-feet of storage, excepting only the year 1898, when there would have been a shortage of 28 per cent in the estimated quantity of water which may be desired for irrigation of this greatly increased irrigable area. The occurrence of years with so light rainfall as 1898 is so infrequent that the works necessary to avoid the losses consequent upon such a shortage would not be economically justified. There will, therefore, be no injury to the irrigation interests by taking a city supply from this re-

gion, provided there can be found reservoir sites affording sufficient capacity; and, in any event, there will be no infringement of existing rights of the irrigation interests.

There are greater possibilities for storage on the Tuolumne than on any of the rivers to the north within a reasonable distance of San Francisco. This fact offsets, so far as desirability as a source of water supply goes, the lighter precipitation on its watershed and the large prior appropriation of its stream flow.

Below is a list of reservoir sites which have been surveyed, with heights of dams and corresponding estimated capacities, and showing also the portions of the total capacity that could be utilized for equalization of the run-off in excess of prior rights from tributary drainage areas during a period like that from 1896 to 1901, including the exceptionally dry season of 1897-98. The excess capacity in each case could be filled only by diversion of water from other catchment areas or during seasons (in some cases several) of exceptionally high run-off, after which it would be available and should be held for the very exceptional dry years, such as have been estimated as possibly worse than 1898.

The maximum height of dam shown in the list is 325 feet. In none of the schemes for supply for which estimates of cost have been made has a greater height been used. The Shoshone Dam (in Wyoming) is 326 feet high (depth of impounded water, 243 feet), but the gorge in which it is located is very narrow (175 feet at crest of dam), with a resulting small cubical content of masonry per unit of storage capacity. The 325-foot height of dam at Hetch Hetchy is given for comparison with the reservoirs on the Mokelumne, where scarcity of reservoir sites makes great height necessary, although the sites there are not favorable for economical storage.

The list of reservoirs is separated into two parts:

First. Those which are on drainage areas tributary to Hetch Hetchy and Cherry Valleys and Lake Eleanor, and which might become available for either a city water supply or for irrigation. These make up over 80 per cent of the total capacity.

Second. Those on other tributaries of the Tuolumne which could not be advantageously used in connection with the city supply now projected by San Francisco.

Tuolumne River reservoir sites.

Site.	Height of dam.	Capacity (acre-feet).		Total capacity (M. G.).
		Total.	Utilizable, 1896-1901.	
On Hetch Hetchy, Lake Eleanor, and Cherry Valley watersheds:				
Hetch Hetchy.....	325	344,000	344,000	112,000
Kibbie Lake.....	40	3,300	3,300	1,100
Lake Eleanor.....	245	265,200	207,200	86,500
Cherry Creek—				
Cherry Valley.....	150	56,800		18,500
Big Lake.....	30	2,600	2,600	850
Buck Meadow.....	30	3,000	3,000	1,000
Emigrant Lake.....	60	14,300	14,300	4,650
Louise Canon.....	100	9,900	9,900	3,200
Huckleberry Lake.....	100	52,200	19,700	17,000
Falls Creek—				
Vernon Lake.....	125	47,900	42,700	15,600
Wilmer Lake.....	115	5,800		
Tilden Lake.....	120	27,800	8,300	9,100
Tuolumne Meadows.....	75	43,200	43,200	14,100
Lake Benson.....	160	53,800	39,400	17,500
Poopenaut Valley.....	235	52,100	52,100	17,000
Total.....		981,900	789,700	320,000
Outside Hetch Hetchy, Lake Eleanor, and Cherry Valley watersheds:				
Erraras Meadow.....	40	1,100	All.	370
Bells Meadows.....	60	6,300	All.	2,100
Coffin Hollow.....	35	2,200	All.	730
Hull Meadow.....	100	8,000	All.	2,600
Dallas and Warner Lake.....		60,000	All.	19,500
Davis.....		48,000	All.	15,600
Dickinson.....		60,000	All.	19,500
Bradford.....		40,000	All.	13,000
Rock Creek.....		5,000	All.	1,600
Total.....		230,600	230,600	75,000
Grand total.....		1,212,500	1,020,300	395,000

The number of reservoirs in the second part can doubtless be increased considerably, since the character of the drainage area is not an important matter in connection with storage for irrigation, and other sites well down in the foothills, if found to exist, could be utilized.

It is evident, therefore, that after making allowance for such reservoirs as may be too uneconomical to consider seriously, the total utilizable capacity of reservoirs will amount to at least the 750,000 acre-feet found necessary for a city supply of 400 million gallons daily (see p. 107 and fig. 18) and to meet the full needs of the irrigable lands through a period of years like those from 1895 to date, excepting only 1898, 1908, and 1912. Possibly the much greater capacity that would have been needed for full irrigation in 1908 and 1912 could be obtained. In this connection it should be noted that for irrigation purposes a larger proportion of total reservoir capacity than shown could be used, as in computing the utilizable capacity of high reservoirs deductions from run-off were made for the appropriations for the irrigation districts.

Many sites have been suggested for reservoirs on the Tuolumne above Hetch Hetchy, but with very few exceptions these have been practically on the crests of the divides separating the Tuolumne from adjacent streams, and have so little catchment area above them that, even though they might be given a considerable capacity, very little of it could be utilized and their value is negligible.

Before the reconnaissance survey of July, 1911, was made it was thought that the few sites suggested, after a study of the topographical sheets of the United States Geological Survey in my preliminary report of April 8, might possess considerable merit, and that the capacity at Tuolumne Meadows might be greatly increased over that given in United States Geological Survey reports.

As a result of the reconnaissance of these sites, Matterhorn and Virginia Canyons were eliminated from the list, the capacity at Tuolumne Meadows remains as given by United States Geological Survey, and that at Lake Benson is much greater than had been assumed.

It was found that a dam below the Lower Tuolumne Meadows, which would be founded on solid glaciated granite, would have to be 240 feet high and about 1,800 feet long to flood the upper meadows to the same depth as the four dams aggregating 2,345 feet in length, but with a maximum height of only 75 feet. The additional storage which the lower meadows would afford would not justify such a structure.

The examination of Matterhorn Canyon, the floor of which is at about elevation 8,500, and above which there is a catchment area of 14 square miles, showed a possible storage of about 80,000 acre-feet with a dam 250 feet high above the creek bed at the only possible dam site. On one side of the canyon at this point there have been great slides or falls of rock from the canyon walls that tower to a height of several hundred or a thousand feet. The width between solid walls of rock at the level of the stream bed may be from 300 to 400 feet instead of only from 25 to 40 feet, as it would at first appear.

The examination of Lake Benson, elevation 8,000 feet, catchment area 31 square miles, showed a site suitable for a dam 150 feet high. The corresponding reservoir capacity is about 53,800 acre-feet. There has since been obtained from the engineer of the Turlock Irrigation district a map of survey of this lake made by him for a reservoir with a dam 100 feet high and a capacity of 30,600 acre-feet.

The attempted examination in June, 1911, of Poopenaut Valley, immediately below Hetch Hetchy, was very unsatisfactory on account of the high stage of the river, which made crossing the valley at any point impossible.

A survey of Poopenaut Valley was made by the city engineer in September, 1911, for a reservoir with water surface 150 feet above ground level near dam site (requiring a dam 210 feet high).

Mr. Freeman proposes an ultimate extension in height of this dam, increasing depth of impounded water to 225 feet and making the available storage 17,000 million gallons or 52,100 acre-feet.

Many of the reservoir sites in list on page 111 would be very uneconomical to construct, both on account of their location and of quantity of material required for dams per million gallons of water stored. Some of them, on account of limited drainage areas, would be valuable only to provide storage for the very worst years, as it would take several years to fill them.

It will be shown further on that a reservoir at Hetch Hetchy Valley would afford by far the most economical storage of any of those in the above list. It should be noted that its capacity is over 28 per cent of the aggregate capacity of the 25 reservoirs named above and 34 per cent of the capacity of these reservoirs, utilizable for the period 1896-1901. Without its being eventually utilized as a reservoir the future needs of irrigation and of a city water supply as discussed above evidently can not be provided for.

Reference to the general mass diagram (fig. 18) shows that after conserving all the water possible with the great storage capacity assumed to be possible, there would have been an unavoidable waste each season since 1896, except 1898, 1899, 1900, 1902, 1908, and 1912. Some years the waste would have greatly exceeded the possible use, even with all the storage capacity noted. The run-off for the season 1907-8 (Sept. 1 to Aug. 31) exceeded that of the season 1897-98 by over 10 per cent and was both preceded and followed by seasons of large waste.

It is evident that the period from 1896 to 1901 is the most critical one for which there are run-off records. Estimates of yields of catchment areas and of reservoir capacity necessary to conserve them are based on this period.

Then, as in the case of sources of supply from other rivers, an increase of 50 per cent in storage capacity has been assumed necessary for the driest possible sequence of years that may come. (See discussion, p. 78.) The additional capacity will need be drawn upon at such long intervals only that it may be in reservoirs so located that several seasons' run-off from their catchment areas are necessary to fill them.

In the following estimates of quantities of water which may be conserved from several portions of the Tuolumne River catchment area, Eleanor and Cherry Creeks have been taken together, as they are now both in the possession of the city of San Francisco, and, although the six reservoirs on the Cherry Creek catchment area, in the foregoing list, afford insufficient storage for the Cherry Creek waters, the deficiency can be much more than made up at Lake Eleanor by giving the conduit connecting Cherry Valley with Lake Eleanor a capacity about 75 per cent in excess of that needed to convey to the city the Cherry Creek portion of the total yield from the combined area.

From the mass diagrams (fig. 20) it appears that from the 193 square miles comprising the Eleanor and Cherry Creek catchment areas 190 million gallons daily may be obtained. Of this quantity 112 million gallons daily would come from the 114 square miles tributary to Cherry Valley and 78 million gallons daily from the 79 square miles tributary to Lake Eleanor. The reservoir capacity on Cherry Creek utilizable for the 1896-1901 period is 89,000 acre-feet, with dam at Cherry Valley 95 feet instead of 150 feet high. A canal (or other conduit) of 200 million gallons daily (310 second-feet) capacity would be necessary to convey to Lake Eleanor water for which there is not storage capacity on Cherry Creek, as shown by the diagram for Cherry Creek alone.

The total storage capacity needed is 260,000 acre-feet, or, for worst period, 390,000 acre-feet. These capacities could be made up as follows:

	Utilizable 1896-1901.	Needed for worst periods.
	Acre-feet.	Acre-feet.
Cherry Valley.....	39,500	39,500
Five other reservoirs on Cherry Creek.....	49,500	82,000
Kibbio Lake.....	3,300	3,300
Lake Eleanor.....	167,700	265,200
Total.....	260,000	390,000

It was suggested by Mr. P. E. Harroun at the hearing before the Secretary of the Interior May 25, 1910, and enlarged upon by Mr. E. G. Hopson, of the United States Reclamation Service, in a report to the Secretary, under date of November 23, 1909, that the run-off from other near-by tributaries of the Tuolumne might also be combined with Lake Eleanor, viz, Falls Creek, which flows through Jack Main Canyon, and Rancheria Creek, which receives the water from Stubblefield and Kerriek Canyons.

The mass diagram for discharge from the 40 square miles of Falls Creek drainage area above Lake Vernon shows that 35 million gallons daily may be obtained here. The necessary storage capacity may be secured on the catchment area, thus:

	Utilizable 1896-1901.	For worst years.
	Acre-feet.	Acre-feet.
Lake Vernon.....	42,700	48,700
Wilmer Lake.....	8,300	27,800
Tilden Lake.....		
Total.....	51,000	76,500

The same quantity of water may be conserved from this watershed by giving the Lake Vernon reservoir a capacity of only 15,000 acre-feet, constructing a conduit of 250 second-feet capacity from it to Frog Creek, above Lake Eleanor, and providing the balance of the necessary storage (36,000 acre-feet for periods like 1896-1901) by raising the height of Lake Eleanor Dam 25 feet, or to a total height of 270 feet. Then the reserve storage for extreme conditions could be located at either Tilden or Vernon Lakes.

The capacity of Wilmer Lake is small and storage there extremely uneconomical.

If the water were to be withdrawn from Falls Creek via Lake Eleanor instead of allowing it to enter the main Tuolumne and then picking it up again at head of conduit to the city near the mouth of Cherry Creek, the second plan mentioned would be the more economical, as a larger portion of the conduit from Lake Vernon to Frog Creek would be in tunnel and nothing in cost would be gained by making it of less capacity than 250 second-feet.

The advantage of taking the discharge of Falls Creek via Lake Eleanor is the increase in power that might be developed from it at the upper or North Mountain power plant, near mouth of Cherry Creek, of the city's project, for development under the Garfield permit.

The disadvantage would be the total extinction of Wapama, or Hetch Hetchy Falls (on Falls Creek), which by many would be considered a greater detriment to the beauty of the park than the conversion of Hetch Hetchy Valley into a lake.

To utilize the discharge from the 45 square miles of area tributary to the point on Rancheria Creek from which it would be conveyed to Lake Eleanor requires, according to surveys made by the city engineer of San Francisco, a tunnel 22,470 feet long from Rancheria to a point on Falls Creek between Brannigan and Vernon Lakes, and one 15,200 feet long from Falls Creek to Frog Creek. The second tunnel would be used also for Falls Creek water, as described above.

No reservoir sites have been located or suggested on branches of Rancheria Creek; consequently all the water that can be used is so much of the discharge of the creek in excess of that which must go to satisfy prior rights as can be carried by the tunnel.

A tunnel of 250 second-feet capacity would be in use to its full capacity about two months and would have been empty for from five to nine months each year of a period like 1896-1901.

It would have saved 75 per cent of the available discharge, and this, with a storage capacity of 36,000 acre-feet for the period named (or 54,000 acre-feet for the driest time), which could be supplied only at Lake Eleanor, would permit a constant draft of 30 million gallons daily.

With Rancheria Creek depending on Lake Eleanor for storage, the reservoirs on Falls Creek would have to be used for Falls Creek waters, and even then the height of Lake Eleanor dam would be still further raised to 275 feet, when its total capacity would be 319,200 acre-feet. The canal or tunnel from Falls Creek to Frog Creek would then need a capacity of 300 second-feet.

For the purpose of comparison, both as to quantity of a safe dependable supply of water and cost of same, that may be obtained from the watershed that is and that may be made tributary to Lake Eleanor, corresponding figures for the drainage area tributary to Hetch Hetchy are given.

If water passing through Hetch Hetchy Valley were to be used for a city supply, whether or not that valley were to be used as a reservoir, there would be no object in diverting Falls and Rancheria Creeks to Lake Eleanor except to develop additional power and to take advantage of surplus storage capacity there. We have seen that Falls Creek waters may be conserved in their own drainage basin. Therefore these areas are included, in the deductions which follow, with the Hetch Hetchy watershed, to which they belong.

Using Hetch Hetchy Valley as a reservoir, with a capacity of 344,000 acre-feet, as per table on page 11, subsequent to the maximum development of the Lake Eleanor and Cherry Creek area, a daily draft of 236 million gallons would be possible through a period like 1896-1901. To support this draft through the worst possible period the necessary 50 per cent additional reservoir capacity could be secured at the four sites—Lakes Benson, Vernon, and Tilden, and Poopenaut Valley.

Were this system to be developed before Lake Eleanor the daily supply would be increased from 236 million gallons to 310 million gallons. This is because all of the discharge of Eleanor and Cherry Creeks could be used to supply prior appropriations before any water need be released for that purpose from Hetch Hetchy.

The dependable yield from the watersheds tributary to Lake Eleanor, Cherry Valley, and Hetch Hetchy Valley, without infringing on the rights of the irrigation districts, is seen to be 190 million gallons daily from Eleanor-Cherry watershed and 236 million gallons daily from Hetch Hetchy watershed, or, if Hetch Hetchy supply were developed first, 310 million gallons daily from that source and 116 million gallons daily from Eleanor-Cherry; the total being 426 million gallons daily. The total depletion of storage would be for the 1896-1901 period 604,000 acre-feet.

Compare with this result Mr. Cyril Williams's conclusion, that the same watersheds through the same period would yield a safe supply of 427.7 million gallons daily, with a depletion of storage amounting to 610,000 acre-feet (198,500 million gallons).

Making Hetch Hetchy the only reservoir for a city supply on the catchment area and allowing one-third of the total capacity of 344,000 acre-feet as a surplus for worse periods than 1896-1901, there would then be a daily supply of 175 million gallons, or if this reservoir were given priority over Lake Eleanor in the use of run-off, 248 million gallons.

The combined capacity of all the reservoirs on the Hetch Hetchy catchment area except Hetch Hetchy itself, together with the discharge in excess of the irrigation rights, would yield 138 million gallons daily through all seasons, assuming as before that the Eleanor-Cherry watershed were first developed to the limit of 190 million gallons daily.

The question as to the necessary restriction in the use of Yosemite National Park by visitors and campers, which has been the cause of much of the opposition to the use of the park as a catchment area for water supply, is discussed by Mr. Allen Hazen, consulting engineer, in a report dated December 4, 1911, to the city engineer of San Francisco, a copy of which has been furnished you.

Mr. Hazen says: "No modification of or addition to the rules—now in effect—need be made." This subject is given much attention in Mr. Freeman's report of July 15, 1912.

At the hearing before the Secretary of the Interior November 25, 1912, it was clearly brought out that the restrictions which would necessarily be imposed upon campers for the protection of other campers within the park would be abundantly sufficient for the protection of users of the water after it has passed through the reservoir and the aqueduct to San Francisco.

13. San Joaquin River.—The elimination from further study of the San Joaquin River as a source of water supply for San Francisco was requested by the city engineer in a letter to the board under date of August 5, 1910, for reasons, in addition to those advanced at the same time for the elimination of the Sacramento River (viz, that filtration of the water would be necessary, and the city was seeking pure rather than purified water), as follows: "That if drawn upon within the limits of tidal action brackish water will probably be drawn into the intake during low stages, and if drawn from above this limit the supply, by reason of increasing draft for irrigation purposes, will prove insufficient."

This request the board at first complied with, but further consideration of the facts that the volume of water in the lower San Joaquin and its several branches is so immense and is fed by outlet sloughs from the Sacramento and the San Joaquin above the points where brackish water has been found, so far as is known, and that although the extensive use of the San Joaquin water for irrigation has reduced the summer flow at points a short distance below the points of diversion to a negligible quantity, a considerable portion of this water seeps back into the river, and that this quantity will increase, as stored water is more extensively used during the low-water period, led to the San Joaquin being restored to the list of those sources that should be investigated.

[Extract from the report of Col. Mendell to San Francisco water commission Aug. 6, 1877.]

The effect of the abstraction of large volumes of water from the rivers—for the purpose of irrigating adjoining lands—on the flow at points a few miles below the diversion is discussed at some length in the report of the United States Commissioners of Irrigation, published in 1874. The experience in Italy and India, as observed and discussed by their ablest engineers, seems to dispose of this portion of the subject in a thorough manner by proving that the water is returned to the river in so large proportion that the quantity a few miles below seems to be undiminished, either absolutely or only in small degree.

[Extract from report of Prof. Hyde to Spring Valley Water Co. on the San Joaquin River as a source of water supply.]

Studies made by the United States Department of Irrigation Investigations in Colorado indicate that when irrigation in a given district has been sufficiently long established to satisfy the ground storage capacity the total yield by seepage to the streams draining such irrigated areas will amount to perhaps 30 per cent of the total volume of water used for irrigation.

It is understood that water taken from the San Joaquin must be purified.

The Spring Valley Water Co. considers that when all its resources on the peninsula and on the Alameda Creek watershed are exhausted it can greatly increase its supply by pumping from the San Joaquin to its natural filter beds in the Livermore and Sunol Valleys. Through the courtesy of the Spring Valley Water Co. access has been had to a report of 200 pages on such a supplemental supply, by Prof. Charles Gilman Hyde. By utilizing the great storage possibilities of reservoir sites held by the Spring Valley Water Co. on the Alameda Creek watershed it is apparent that pumping from the river could be discontinued during the low-water stage, forced at other times, and a supply of perhaps several hundred million gallons daily maintained from the reservoirs.

The mass diagram (fig. 21) shows discharge of the San Joaquin River at Southern Pacific Railway bridge, near Lathrop, since 1898, as determined by Prof. Charles G. Hyde from record of gauge heights, reduced by the amount of water appropriations of several irrigation districts in excess of the actual quantities diverted and with allowance made for the return of portions of such diverted water by seepage, as per statement under the diagram and on page 121. The resulting diagram is intended to show the discharge as it would be with irrigation in progress as allowed for through a similar series of years. The record of gauge heights runs back several years prior to 1898, but the record for that year, which is known to be the lowest since 1876, is entirely missing.

Actual flows were measured under the direction of Prof. Hyde at comparatively few stages, the flow at other stages being determined by interpolation and extrapolation. The results, therefore, can not be relied upon as very accurate.

The lowest recorded flow of the San Joaquin River at this point is said to have been 230 second-feet, probably in 1898. In November, 1905, it was 390 second-feet. In 1905 the mean monthly flow after August did not exceed 500 second-feet. The smallest annual discharge since 1898 was in 1908, as shown by the diagram.

A full development of irrigation needs by means of mountain storage to the extent shown by the middle diagram for the year 1908 would result in a large seepage back into the stream, but such a contingency is too remote and uncertain to figure on.

The diagrams show that to maintain a draft of 200 million gallons daily through the year 1908 a storage capacity of 30,000 million gallons would be required. This equals 92,000 acre-feet, or a depth of 7.2 feet over 20 square miles of reservoir surface. It is evident, therefore, that such a draft could not be maintained from any point on the lower San Joaquin or Old River without getting salt water to the intake were it

not that the Sacramento River also contributes water to the lower San Joaquin.

Confining ourselves for the present to San Joaquin water only: The 30,000 million gallons storage required is a 150 days' supply of 200 million gallons daily. It is known that the 1898 flow was less than that of 1908, and other years may have been and may be even worse, so that draft from storage for at least 180 days, and probably for 250 days, should be provided for.

If such storage were to be provided for in the Alameda Creek watershed, it would mean that to supply San Francisco with 200 million gallons daily pumps and conduits from the San Joaquin River to Alameda Creek of 400 million gallons daily capacity would be needed under the assumed necessity of 180 days' storage, or of 635 million gallons daily if draft would have to be from storage only for 250 days.

In fig. 21 the appropriations assumed and allowed for are as follows:

	Second-feet.
Turlock irrigation district, total	1,500
Used since 1898, 1,000 second-feet.	
Modesto irrigation district, total	850
Used since late in 1903, 600 second-feet.	
South San Joaquin district	1,700
Other districts, unallowed for above	2,236
Total	6,286
Deduct 30 per cent returned to stream	1,886

Leaving total deduction from natural flow 4,400

The amount deducted from the flow was less than this by the quantity actually diverted.

In computing quantities for the mass diagram, 3,800 second-feet was deducted for each month from April to September, inclusive, and one-half that quantity for March and October for the years 1899, 1900, 1901, 1902, and part of 1903; 3,200 second-feet and one-half that amount was deducted for the corresponding months of the years 1904, 1905, 1906, 1907, 1908, 1909, and the latter part of 1903; 3,000 second-feet and one-half that amount was deducted from the corresponding months of 1910.

It has been shown before that all the storage capacity of sites controlled by the Spring Valley Water Co. on Alameda Creek watersheds is needed for the conservation of Alameda Creek waters unless sites claimed by the Bay Cities Co. and other interests are also used for the latter purpose.

To use the Peninsula reservoir excess capacity for San Joaquin water would require the same excess capacity of conduits as above all the way from the river to Crystal Springs reservoir. This would be prohibitive in even greater degree than the duplication of pipes to Alameda Creek.

It appears from the above that any scheme for supplying filtered water from the San Joaquin River would have to depend on the inflow to the lower reaches of that river of Sacramento River water, and therefore the nearer both to that river and to the point of delivery the pumping station could be located (and still be kept above points possibly reached by salt water) the better.

A point on Old River known as Clifton Court seems the most favorable location. The mouth of Old River, in the main San Joaquin, is above the mouth of the Mokelumne River and of Georgiana, Seven Mile, and Three Mile Sloughs, which carry Sacramento River water to the San Joaquin.

From its mouth to Clifton Court, Old River channel is about 30 miles long. This distance could be considerably shortened by cut-offs, if found desirable.

The cross section of Old River near Clifton Court at low water measures about 2,300 square feet and is apparently great enough at all points so that a draft of 200 million gallons daily at times when all the water would have to come from the north, i. e., from the Sacramento, would not cause a mean velocity of more than 0.2 foot per second. The fall in the 30 miles of channel would not exceed 1 foot.

Estimates of cost of constructing and operating a 200 million gallons daily filtered supply from the lower San Joaquin exceeded those for supplies of equal quantity from any of the mountain sources.

The suggestions made by the Spring Valley Water Co. for the use of the San Joaquin River water in connection with its system is for pumping the water to the Alameda Creek watershed and there to filter it in the natural gravel beds of the Livermore Valley and in the vicinity of Sunol. This is doubtless possible to some extent. Assuming that the entire cost of constructing artificial filter beds and the expense of operating them could thus be eliminated, the total cost of the scheme would be reduced by cost of filtration plant and by capitalized value of operating same. The possible reduction in cost of filtering is partly offset by the loss of head between the point where the conduit crosses the divide above the reservoirs in which the water would need be stored prior to being released to the natural filter beds and the point of recovering the water near Pleasanton or at Sunol. This loss would have to be made up by additional pumping.

The net saving in cost would not give this scheme a pecuniary advantage over the mountain supplies, which do not need filtering.

The relative merits of the San Joaquin and Sacramento Rivers as sources of water supply and other disadvantages of the former than those described above are well shown by the following quotations from Mr. Hazen's report, previously referred to:

"Sacramento River water is clearly of better quality than San Joaquin water. This is well shown by analyses made by United States Geological Survey. These results show the Sacramento River to be not only much softer and more free from mineral matter, but the seasonal variation is much less.

"The Sacramento River water may be filtered so as to produce a good potable water at all seasons of the year, removing the turbidity, color, and the results of sewage pollution. The San Joaquin could be similarly purified, but would contain an excess of mineral matter during a part of the year. A part of this could be removed, at greatly increased expense, by softening, while other parts could not be so removed."

McCloud River: The remarkably even flow of this river as compared with those of other California streams which have been reported upon is well shown on the mass diagram (fig. 22). It is this feature that renders the construction of large and expensive storage reservoirs in connection with a municipal water-supply scheme depending on the McCloud River unnecessary.

The snow banks and glaciers of Mount Shasta, together with the porous lava formation, through which the water from the melting snow and ice (as well as the precipitation on other parts of the watershed) percolate before they emerge as springs, serve as most effective reservoirs in regulating the flow of the McCloud.

United States Geological Survey records of run-off measurements extend back to 1902 only. No record was kept or measurements taken between June, 1908, and December, 1910.

There has been a United States fish hatchery at Baird, about 2 miles above the mouth of McCloud River, for many years. In a letter replying to a request for information as to a possible record of gauge heights that it was thought might have been kept by the Bureau of Fisheries, Mr. G. H. Lambson, the superintendent, said that in January, 1911, the river was lower than at any other time during the 15 years that he had been there, and that the oldest residents on the river stated that it was lower than ever known before.

The United States Geological Survey gaging records show a flow in the river at Baird of 1,240 second-feet for a period of five days in January, 1911. On January 4, 1912, the same low stage was again reached, but the river raised the following day. On September 28 and 29, 1912, the discharge fell to 1,210 second-feet. Since the latter date it has been greater.

The earlier gagings (1902-1908) were at a point about 12 or 15 miles above Baird. A minimum discharge of 1,180 second-feet is recorded. The catchment area above Baird is enough larger than that above this station to account for a difference in minimum discharge of 30 second-feet (1,210-1,180).

The Weather Bureau records of precipitation for stations in the vicinity of Mount Shasta do not extend further back than 1889. A study of these records indicates that the only period during which a materially smaller flow in the McCloud than in September, 1912, seems probable is that from 1897 to 1899. At Sisson from 1893 to the winter of 1899, six years, the seasonal precipitation was continuously below the normal, and for the season 1898-99, the last of the series, it was but 40 per cent of normal.

Filings prior to those of the proponents of this project on water for power development and applications for rights of way over public lands have been made. Conflicting rights are still unadjudicated.

There are extensive lumbering operations on this catchment area. There are also some agricultural and dairy interests.

Analyses of the water at Baird show it to be a very pure soft water, and the Government fish culturists have found it particularly well adapted to their uses.

Contamination by sewage from the sawmill town of McCloud will have to be guarded against, though no evidence of such contamination has been noted.

Delivery of the water for San Francisco directly to the Crystal Springs Reservoir (via Dumbarton Point, as for supplies from sources south of American River) would add unnecessarily to the cost. But the peninsula reservoirs and others in Alameda or Contra Costa County would have to be given the greatest possible capacity, to be filled and held in reserve against the contingency of the McCloud River conduit being closed for repairs.

The plan proposed by the Mount Shasta Aqueduct Corporation for a water supply from the McCloud River provides for the delivery by gravity of 400 million gallons daily at an elevation of 300 feet into twin reservoirs, having an estimated capacity of 30,000 million gallons, on Pinole and San Pablo Creeks. In the Contra Costa Hills north of Berkeley. From these reservoirs the conduit would have a capacity of 400 million gallons daily to Oakland, thence across the bay to San Francisco 200 million gallons daily. Delivery in San Francisco would be at elevation 200 feet above sea level.

The distance to San Francisco from the San Pablo Reservoir is substantially the same as from Crystal Springs Reservoir. The distance to center of Oakland from San Pablo Reservoir is no greater than from Lake Chabot, to which Oakland water would be delivered from the Hetch Hetchy Aqueduct by a branch conduit about 16 miles long.

The route of the proposed Mount Shasta Aqueduct is such that for most of the distance it can be kept very near the hydraulic grade line, thus permitting the use of cut and cover gravity section and reinforced concrete pressure pipe instead of the heavy steel pipe under a head of from 300 to 600 feet for a distance of 40 miles across the San Joaquin Valley, as is the case with supplies from the Sierras east of San Francisco.

Summary of distant supplies: The following table shows, for each of the sources of supply from which it has been shown that a suitable supply might be made available to San Francisco and the bay cities, the quantity of such supply and the feasible combinations of such supplies to produce a total of 400 million gallons daily or more:

	Supplies needing filtration (million gallons daily).	Supplies which with moderate supervision of watershed need no filtration.			
		Million gallons daily.	Feasible combinations of sources.		
			Million gallons daily.	Million gallons daily.	Million gallons daily.
Eel River.....		180			
Sacramento River.....	400+				
Feather River.....	400				
Yuba River.....	400	164			
American River.....	(?)				
American-Cosumnes River.....	215	215			
Mokelumne River.....	128	128	128		
Stanislaus River.....	57	57	57		
Tuolumne River:					
Eleanor-Cherry.....	190		190		190
Rancheria Creek.....	30		30		
Hetch Hetchy.....	206			236	
McCloud River.....	400				
Combination total.....			400	405	426

If Hetch Hetchy supply were developed before Eleanor-Cherry, 310 million gallons daily might be obtained there, and the total, 426 million gallons daily, subsequently made up by taking 116 million gallons daily from the Eleanor-Cherry watershed.

The map of central and northern California (Pl. I) shows the location of the Tuolumne conduit as proposed by Mr. Freeman, also suggested location of conduits for the sources shown in above table giving

over 400 million gallons daily. Approximate profiles of several of these conduit lines are shown on Plates II and III.

Except for the Hetch Hetchy and McCloud River Aqueducts, the profiles are not of lines which have been proposed by the advocates of the several sources, but are of lines located on topographic maps of the United States Geological Survey, with special reference to combining different sources to produce a total of 400 million gallons daily.

The following table shows, for each of the sources or combination of sources that may be developed to yield 400 million gallons daily, the extent of catchment areas and reservoir capacities required for such development. It is assumed that one-half the total supply is delivered on each side of San Francisco Bay.

Catchment area.	Square miles.	Reservoirs.			
		For period like 1897-1901.		For assumed driest period.	
		Number.	Capacity.	Number.	Capacity.
Tuolumne, including Lake Eleanor, Cherry Valley, Hetch Hetchy Valley, and their watersheds.....	652	2	Million gallons daily, 183,000	4	Million gallons daily, 276,000
Eleanor-Cherry.....		T 8	95,000	8	142,000
Stanislaus.....	997	S 4	37,000	5	55,500
Mokelumne.....		M 3	33,000	3	50,400
		15	165,600	16	247,900
Stanislaus.....		S 4	37,000	5	55,500
Mokelumne-American.....	1,010	M 3	33,000	3	50,400
Cosumnes.....		AC 6	42,300	8	63,500
McCloud.....	653	13	112,900	16	169,400
		2	30,000		

Mr. GRONNA. I said last night, Mr. President, that I was prepared to show that San Francisco did not need Hetch Hetchy or the Tuolumne River for a water supply. In order to substantiate that statement I want to read from Document No. 54, the report of the advisory board of Army engineers to the Secretary of the Interior on investigations relative to sources of water supply for San Francisco and bay communities, made February 19, 1913. This, it seems to me, ought to be reliable information so far as it goes:

McCloud River: The remarkably even flow of this river, as compared with those of other California streams which have been reported upon, is well shown on the mass diagram (fig. 22). It is this feature that renders the construction of large and expensive storage reservoirs in connection with a municipal water-supply scheme, depending on the McCloud River, unnecessary.

The snow banks and glaciers of Mount Shasta, together with the porous lava formation, through which the water from the melting snow and ice (as well as the precipitation on other parts of the watershed) percolate before they emerge as springs, serve as most effective reservoirs in regulating the flow of the McCloud.

United States Geological Survey records of run-off measurements extend back to 1902 only. No record was kept or measurements taken between June, 1908, and December, 1910.

I read only a portion of this report, on page 124:

The distance to San Francisco from the San Pablo Reservoir is substantially the same as from Crystal Springs Reservoir. The distance to center of Oakland from San Pablo Reservoir is no greater than from Lake Chabot, to which Oakland water would be delivered from the Hetch Hetchy Aqueduct by a branch conduit about 16 miles long.

The route of the proposed Mount Shasta Aqueduct is such that for most of the distance it can be kept very near the hydraulic grade line, thus permitting the use of cut and cover gravity section and reinforced concrete pressure pipe instead of the heavy steel pipe under a head of from 300 to 600 feet for a distance of 40 miles across the San Joaquin Valley, as is the case with supplies from the Sierras east of San Francisco.

This is the summary:

Summary of distant supplies: The following table shows, for each of the sources of supply from which it has been shown that a suitable supply might be made available to San Francisco and the bay cities, the quantity of such supply and the feasible combinations of such supplies to produce a total of 400,000,000 gallons daily or more.

They give a list of the supplies which, with moderate supervision of watershed, need no filtration, and which they say are feasible. The Sacramento River, 400,000,000 gallons plus; the Feather River, 400,000,000; the Yuba River, 400,000,000.

Now, Mr. President, I have no other interest in this matter than that of any other Senator desiring to do justice to the people directly and most vitally interested, and to act for the welfare of the people of that great State. I do not believe that by reading the conclusion made by the Army engineers anyone can say that this is the only available source of supply.

Now, the McCloud River is in the Sacramento Valley; the Tuolumne River is in the San Joaquin Valley.

The Tuolumne River could if not used for city supply be used to irrigate a large amount of fertile land, as could almost any river in the valley of California if means are found economically to store the water.

The board believes that on account of the fertility of the lands under irrigation and their aridity without water the necessity of preserving all available water in the valley of California will sooner or

later make the demand for the use of Hetch Hetchy as a reservoir practically irresistible.

Mr. President, I wish to read briefly from the hearings before the Committee on Public Lands in the House of Representatives. I read from Col. Biddle's testimony.

Mr. RAKER. Coming back to the McCloud River source of supply, I understand from the report that the water would be taken from the McCloud River alone without any estimate or figuring as to the Pitt River?

Col. BIDDLE. Yes, sir.

Mr. RAKER. The water would be taken higher up on the McCloud River and above the junction of the McCloud and Pitt Rivers?

Col. BIDDLE. Yes, sir; the water would be taken from the river higher up, about a mile above, where it joins the Pitt River.

Mr. RAKER. And you have not figured on locating it so as to take the water from the McCloud and Pitt Rivers together?

Col. BIDDLE. No, sir. Our estimate was made on the McCloud River.

Mr. RAKER. Why was not the estimate made on both rivers?

Col. BIDDLE. Because there is plenty of water in the McCloud River for all needs. You see, that river comes from Mount Shasta, and the least flow is twice what San Francisco needs.

That is the statement made by Col. Biddle, who is a member of the Corps of Army Engineers; and yet the people of San Francisco come here and say that there is no other available source of supply.

Mr. MYERS. I desire to ask the Senator a question.

The VICE PRESIDENT. Does the Senator from North Dakota yield to the Senator from Montana?

Mr. GRONNA. Yes, sir.

Mr. MYERS. What does the report of the Army board say about the cost of the McCloud River project? Does it not put the cost far above the Hetch Hetchy project?

Mr. GRONNA. I want to say to the Senator from Montana, and I say it as candidly as can be said, that the report does show that the cost would be a little larger, but the board also admits that they have not made any definite estimate. They admit they have not gone into the question of cost as thoroughly as it could and should be gone into.

Mr. MYERS. I will ask if they have not considered it enough to satisfy themselves that it would be considerably more? Are they not enough satisfied that the cost would be several million dollars more?

Mr. GRONNA. Yes; but that is largely a guess, I want to say to the Senator.

Mr. PITTMAN. Mr. President—

The VICE PRESIDENT. Does the Senator from North Dakota yield to the Senator from Nevada?

Mr. GRONNA. I yield.

Mr. PITTMAN. I realize how serious the Senator is in his support of that river as a source of supply. I should like to know if he has made any investigation as to the difficulties of obtaining that water?

Mr. GRONNA. The only investigation I made was by reading the hearings and reports. I have read all the hearings before the committees, both in the House and in the Senate. I have read the Army engineers' reports, and I was on the Committee on the Public Lands of the House for nearly six years, and during that time much testimony was offered before that committee.

Mr. PITTMAN. From whom is this water to be purchased?

Mr. GRONNA. This water belongs to the State of California. As in the case of all waters in the State of California it belongs to the people of that State the same as the water of the Tuolumne River belongs to the people of that State.

Mr. PITTMAN. We agree on that, I will say to the Senator, but there are some claims by citizens of California, a corporation, for the use of that water, are there not?

Mr. GRONNA. There is nothing in the testimony anywhere to show there is, I will say. There is testimony to the effect that there is an abundance of water supply for the irrigation district and also to supply the bay cities in the State of California.

Mr. PITTMAN. Is it not the fact that the hearings disclose that there are a number of conflicting claims for the waters of that river that have never been adjudicated or settled?

Mr. GRONNA. I do not believe the records show that. The records that I have examined do not show it.

Mr. PITTMAN. It is my recollection, I will say, and I intend to show that a little later.

Another question: Does not the record also disclose that the use of that water will lower the Sacramento River and affect it for purposes of navigation?

Mr. GRONNA. I believe that the Senator from Nevada will find in the records statements to the effect that after supplying the irrigation districts, San Francisco, and the bay cities there is still a sufficient amount of water and it will not seriously affect navigation. That will be found in the hearings.

Mr. PITTMAN. Do not the records state that it might require some dredging and additional work so as to allow navigation if this water were used?

Mr. GRONNA. Mr. President, I do not care to pursue that discussion any further. All I know about it is what I find in the records, and I have made my statement. If it is not correct, it is because I do not understand what I have been reading. But I am honest in my belief and in the statement I have made, that the records do show that in the McCloud River there is an abundance of water for all the bay cities and an abundance of water for the irrigation districts in that valley, and that it will not seriously injure navigation.

Mr. PITTMAN. Mr. President—

The VICE PRESIDENT. Does the Senator from North Dakota yield to the Senator from Nevada?

Mr. GRONNA. I yield.

Mr. PITTMAN. I do not want to interrupt any further. I will simply state that I asked the question—

Mr. GRONNA. I gladly yield.

Mr. PITTMAN. I asked the question because the Senator was attempting to show that the McCloud River was an available source of water. Now, then, to be available it must either be subject to location by San Francisco under the laws of California or it must be subject to purchase from those who own it. The Senator has not shown who owns it. He has not shown who are entitled to that water or if it is claimed by anybody. The report states that there are many conflicting claims to it. He has not shown that those conflicting claims can be purchased, and he has not shown that under those conflicting claims there is sufficient water to appropriate without affecting navigation in the Sacramento River. Until he does show those things, he has failed to show that the McCloud River is available for San Francisco.

Mr. GRONNA. The Senator from Nevada is too good a lawyer to expect the Senator from North Dakota, who is only a farmer, to know everything about the laws of the State of California, but the Senator from North Dakota does know that for whatever purpose the water in the rivers of California can be best used, the waters of the rivers of California must be used for that purpose and nothing else.

Mr. PITTMAN. Mr. President—

Mr. MYERS. I should like to ask the Senator—

The PRESIDING OFFICER (Mr. CLAY in the chair). Does the Senator from North Dakota yield to the Senator from Nevada first?

Mr. GRONNA. I first yield to the Senator from Nevada, then I will yield to the Senator from Montana.

Mr. PITTMAN. I want to ask the Senator whether or not he has seen any protest against the use of the McCloud River by people granted rights there as irrigators?

Mr. GRONNA. I will say to the Senator that I have not.

Mr. PITTMAN. I want to state to the Senator, then, for his information, that I have here on my desk some 20 or 30 editorials from newspapers throughout the entire Sacramento Valley protesting against the attempted use of the McCloud River by San Francisco, on the ground that it would deprive irrigators on that river of vested rights and would prevent the placing under irrigation of many thousands of acres of land that have no other available water supply. I am simply calling his attention to this to show that the McCloud is in the same condition, as far as a contest is concerned, as the Tuolumne River.

The PRESIDING OFFICER. Now, does the Senator from North Dakota yield to the Senator from Montana?

Mr. GRONNA. I now yield to the Senator from Montana.

Mr. MYERS. I simply want to ask this question of the Senator: Even conceding all that the Senator claims, as shown by the report of the Army board for the McCloud River, does not that same report also show that there is plenty of water in the Tuolumne River if this reservoir be constructed for both San Francisco and these irrigators, and if it is some million dollars cheaper why not let them have it?

Mr. GRONNA. Mr. President, I shall have to take issue with the Senator from Montana about that. The report does not show that. On the contrary, the way I construe the report, it shows that, if San Francisco is to have the amount of water that she claims she will need, the irrigation districts will not get the amount of water which will be required to irrigate that entire valley.

Mr. MYERS. We read the record differently, then. If the Senator from North Dakota will turn to the conclusions of the Army board, I think he will find a paragraph there bearing to what I have said.

Mr. GRONNA. As to the statement made by the Senator from Nevada [Mr. PITTMAN], I accept it. I know very well when he says he has received those protests that he has received them; but I want to ask the Senator from Nevada this question: Is it not true that, in the testimony given in the hearings before the House Committee on Public Lands, Col. Biddle did testify

that there is plenty of water in the McCloud River for all purposes, both for the irrigable lands in the valley and for a water supply to the bay cities?

Mr. PITTMAN. Mr. President, my recollection is that Col. Biddle testified that there was ample water flowing in that river to satisfy the needs of San Francisco, but I do not remember that he said that it would supply all purposes. In a few moments, if I can find it without further interrupting the Senator, I will read what Col. Biddle said in regard to that subject, but meanwhile I will not take up the Senator's time.

Mr. GRONNA. My impression is that Col. Biddle said in his testimony that there was plenty of water for irrigation purposes in the Sacramento Valley and plenty of water for the bay cities in the State of California without any reservoirs being built; and the Senator from Nevada knows there are thousands of acres of watersheds where reservoirs can be built in the so-called McCloud Basin or on the McCloud River.

Mr. MYERS. I do not want to interrupt the Senator, but I will ask him to yield to one more interruption before I leave the subject.

The PRESIDING OFFICER. Does the Senator from North Dakota yield to the Senator from Montana?

Mr. GRONNA. Certainly.

Mr. MYERS. In view of the difference between the Senator from North Dakota and myself about what this report shows, I wish merely to read one paragraph from page 50 of the report. Speaking of the Hetch Hetchy project, it says:

The board further believes that there will be sufficient water, if adequately stored and economically used, to supply both the reasonable demand of the bay communities and the reasonable needs of the Turlock-Modesto irrigation district for the remainder of this century.

Mr. GRONNA. Yes, Mr. President, but it says nothing about the Waterford district; it does not say anything about the 200,000 acres that are deprived of water now. So far as the statement goes, of course, I accept it.

Mr. PITTMAN. If the Senator from North Dakota will now let me interrupt him, I shall read what Col. Biddle says about the matter.

Mr. GRONNA. I yield.

Mr. PITTMAN. He testifies on page 60, and here is what he has to say:

Col. BIDDLE. I did not know that they were working especially for the McCloud River. I do know, however, that they are rapidly putting the whole valley under irrigation, and of course the McCloud River is a very important factor in that valley. I will say this: The McCloud River is a river which flows with great uniformity all the year around. In fact, it is the chief means of supply to the Sacramento River at times of low water. A large part of the irrigation in the Sacramento Valley comes from pumping from the Sacramento River, and, according to an act of Congress, as construed by the Chief of Engineers, they can not take water out of the Sacramento River when it reaches a certain stage; that is, a stage of 2 feet above low water. When it reaches that stage of 2 feet above low water, no authority is given to pump water out of it. Now, the water in the Sacramento River reaches that stage about the time that irrigation is most important, and therefore if you should take away all or a large part of the McCloud River, that stage in the Sacramento River will come that much earlier and to that extent would affect irrigation.

Mr. GRONNA. I will say to the Senator from Nevada that that can all be overcome at a very small cost by building reservoirs and by building dams at the source of this river.

Mr. President, I shall trespass upon the Senate but a short time further. I wish to have incorporated in my remarks without reading the statement of Mr. L. L. Dennett, representing the proposed Waterford irrigation district and Stanislaus County, Cal., which was made before the Committee on Public Lands of the House of Representatives at this session of Congress. His statement begins on page 252.

The PRESIDING OFFICER. Without objection, permission to insert the statement will be granted.

The statement referred to is as follows:

STATEMENT OF MR. L. L. DENNETT, REPRESENTING PROPOSED WATERFORD IRRIGATION DISTRICT AND STANISLAUS COUNTY, CAL.

Mr. DENNETT. The telegrams just introduced into the record by the chairman, addressed to Congressman CURRY, are in regard to the irrigation district on the west side and the other regarding the trade irrigation district. This matter was not called to my attention until Mr. CURRY received these telegrams, and I will discuss it later.

There are two phases of this question I wish to discuss.

The CHAIRMAN. What is the first one?

Mr. DENNETT. The first proposition, I think, I would like to discuss would be the general policy of this bill very briefly. I would like to state this, that I very much regret to appear in any way to oppose the desire of San Francisco to obtain a municipal water supply. So far as the obtaining of such a supply is concerned, I am greatly in sympathy with San Francisco, but I do not believe that such a supply should be obtained either at the expense of the people of the State of California as a whole, and I certainly do not believe that such a supply should be obtained at the expense of the people of my own county, whom I particularly represent.

The facts are largely before the committee, and therefore I do not wish to go into the details of the discussion. I would like to state, broadly, however, this proposition: That the principle of the general conservation of the resources of the State of California have been considered for years—long before this Hetch Hetchy proposition came up.

It was realized that if the highest development of California was to be obtained, every drop of water in the State should be applied to the most beneficial use, and that it would become necessary in the development of the State to divert from the Sacramento Valley the waters which are there in excess either for domestic purposes or for irrigation in the San Joaquin Valley, and I honestly and conscientiously believe that the proposition of San Francisco is contrary to the broadest principle of conservation of resources of the State, and will result in a greater economical loss ultimately to San Francisco than the mere question of cost, and that this matter may be before the committee, I would like to refer for one moment to the record compiled by the Conservation Commission of the State of California for the year 1912, showing the peculiar water conditions in the State of California.

It shows, broadly, this, that if every acre of land in the Sacramento Valley were irrigated and the flow of the Sacramento River was maintained so that navigability would not be impaired there would still be an abundance of water which could be diverted from the Sacramento Valley to be used elsewhere. In a broad policy of conservation it is desirable, with this as one of the units in the conservation of the resources of the State of California, that that excess of water be impounded and diverted from the Sacramento Valley, so as to relieve the people from flood loss.

Just a few moments ago there was handed to me a report of the Rivers and Floods of the Sacramento and San Joaquin watersheds, compiled by the authority of the Federal Government, which showed a loss of \$10,000,000 in the last two or three floods in the Sacramento Valley. So we can readily see that it would not take a great many floods by this excess of water to compensate for any greater expense from proper impounding and diverting of that water.

In this report of the conservation commission we find on page 170 this statement:

"The rainfall of the Sacramento Valley and acreage already appears in the record, and the committee are familiar with that"—and I will only give the summaries, because the figures, I presume, are not necessary to be retained in mind.

I would like to call also attention to the fact that while for years we have been considering the ultimate highest conservation of the resources of the State of California, which is a matter of tremendous importance, and that the possible reservoir sites have not all yet been determined. This report shows approximately 3,400,000 acre-feet of known storage capacity for which water has been estimated to be annually available. Then, further on it states that the total mean flow of the Sacramento River at Collinsville during the months of April to September, inclusive, approximate, according to the best available data, 16,000,000 acre-feet. Allowing 7,000 cubic feet per second during that period of navigation leaves nearly 13,500,000 acre-feet as an approximation of the supply available in the mean year for direct diversion, assuming diverting capacity great enough to handle it, etc. Showing the fact, which I think will not be controverted by anyone, that when the proper conservation of the water supply of the Sacramento Valley is accomplished—and that it can be accomplished I think no competent engineers question—there will be an excess of water which for the protection of that valley should be diverted, and it is our contention, from the San Joaquin Valley, that in the face of that view, in the face of the fact that we are endeavoring to develop these resources, every unit in the development of the State should be constructed with the idea in mind of the greatest ultimate conservation, and that therefore it is an economic blunder to divert water from the San Joaquin Valley, where it is needed, when water can be diverted from the Sacramento Valley, where its diversion is desired.

I do not care to dwell upon this phase, because, to be perfectly candid, apparently from the remarks of the committee the argument does not seem to appeal to them, and I do not care to take the time of the committee in making an argument which apparently does not carry great weight.

Mr. GRAHAM. How far would you carry that theory? For instance, in order to use the water out of the Sacramento River which otherwise would go on idly to the sea and thereby save what elsewhere might be used for irrigation, how much additional expense would you go to? Do you get my thought?

Mr. DENNETT. Yes, sir. To take a concrete illustration of the case in point: It is unquestioned that ultimately—it will not be in our lifetime—the diversion of 400,000,000 gallons of water to San Francisco means the permanent sterility of 200,000 acres in the San Joaquin Valley. An acre of land in the San Joaquin Valley, under irrigation—and I think I make a conservative estimate—will produce in food value, gross, in excess of \$100 a year, and therefore your 200,000 acres will mean an annual loss of \$20,000,000 of food production to the people of the United States of America. Now, you can not capitalize food production. We have talked a great deal about the matter of life or death in regard to the use for municipal purposes for water, but when it comes to a question of food supply for a great nation you can not capitalize it, but if you attempt to capitalize on a 5 per cent basis you have a loss to the United States of America of \$400,000,000.

Mr. THOMSON. May I ask a question right there?

Mr. DENNETT. Certainly.

Mr. THOMSON. If this water is used for San Francisco from Hetch Hetchy, will those 200,000 acres of land in the San Joaquin Valley that you have referred to be without irrigation?

Mr. DENNETT. Ultimately it will. Of course, I assume that if this water is used for San Francisco, that for a time some part will be retained for use in the valley, but ultimately this land will be absolutely without water.

I would like to state that the annual rainfall in this region where they use this water is only about 9 inches. This year it was only about 5 inches. Nine inches of water, as you gentlemen are aware, in a dry climate like that of California can only be of use in the raising of wheat or similar grains. This land has been cropped for years to wheat until its productivity has been almost destroyed for grain. It must be irrigated or it becomes practically worthless.

Mr. THOMSON. Is Hetch Hetchy the only source?

Mr. DENNETT. Hetchy is the only possible source of supply for this land lying along the Tuolumne River. I think I have heretofore given, at an earlier stage, the reference to this report showing the acreage dependent on the Tuolumne River and the flow-off from the Tuolumne River. I stated that there were 250,000 acres approximately in the irrigation district; there are 200,000 acres outside of the irrigation district, according to this report, which are dependent on the river. In addition to that, there is an area of about 22,000 acres in the foothills which can be irrigated at considerable expense. We believe if this foothill land is citrus land it will pay for irrigation at this expense. That is a development which has not yet been thoroughly determined. As I said before, I do not care to take the time of the committee on this argu-

ment, although I believe in it profoundly. There is no conviction I have which is deeper than this, that if our friends of San Francisco appreciated the seriousness of the situation they would be the very last people to ask for this water; that a project might be inaugurated which would condemn utterly to sterility this land, and I can only, recognizing the intelligence and liberality of those people, justify their action on the ground of the fact that they have not yet fully appreciated the situation.

Mr. TAYLOR of Colorado. That refers to the people—

Mr. DENNETT. Of San Francisco.

Mr. GRAHAM. What do you say as to the practicability of your thought; that is, as to whether the irrigable land below Hetch Hetchy could ever afford to make a dam that would conserve all of that water?

Mr. DENNETT. I am glad you referred to that. Mr. Chairman, I think I have said all that I care to say on that general question. While I am opposed to the bill utterly and completely in principle, still I believe it is possible for it to be passed in such a form that there will be in it much less measure of damage to this district, and possibly an equal degree of protection to San Francisco. Following the line of thought of Director Smith, who stated in substance that he assumed the San Francisco would not make such a use as would deprive this land of the water, I believe that that assumption should be incorporated in the bill.

Coming back to the other question, as a concrete proposition, I am here primarily as the representative of the proposed Waterford Irrigation district and Stanislaus County by appointment of the board of supervisors. This district represents a body of land containing between 20,000 and 25,000 acres.

Before I answer the question of Mr. GRAHAM, possibly, gentlemen of the committee are not familiar with the irrigation district law of the State of California, as it has been worked out into successful operation. A number of the States from which these gentlemen come have this law, but I think in none has it been worked out to the degree of success and completeness it has in California. Under the laws of California the legislature of the State many years ago, recognizing the importance of irrigation, provided that any region susceptible of irrigation from a common source available could organize itself into an irrigation district. This irrigation district, in brief, has an organization almost identical with that of school district. All of the land in the district is taxed for the purpose of obtaining a water supply. I am not speaking in legal terms, but in general explanation. The water is distributed to the land free of charge, so that all of the land in the district taxes that, and all of the land in the district may get the water. This is necessary, because you will realize that the initial outlay under conditions in California in the construction of an irrigation system is so great that we have reached the stage where probably private enterprise could no longer afford to go into this development of this, and the charges made for water in the beginning would be so great that no one would utilize the water if they did. They have already organized this 20,000 acres into an irrigation district.

The owners of the land adjoining just south of it, containing 45,000 or 50,000 acres, are investigating the question of taking the same step. This 20,000 acres in question will take its water from the diverting dam of the Modesto and Turlock irrigation district. It will be a comparatively inexpensive district in the beginning. The land south of the river having higher land will be compelled to go farther up on the river and divert its water at a higher level, but the investigation made by engineers has shown that it is entirely feasible and not unduly expensive, and unquestionably unless this bill passes in such a form as to absolutely deprive this region of water such a district will be formed.

That you may understand the difficulties, you should note that the districts after they are organized, in order to obtain money to complete their system, may issue and sell bonds. I presume most of you gentlemen from the West are sufficiently familiar with the general irrigation question to realize that the sale of irrigation bonds is not easy. The Legislature of California passed a law in order to assist our irrigation bonds, providing for a State commission consisting of the attorney general, the State engineer, and, I believe, now the dean of the department of agriculture, who must pass, first, upon the organization, second, the engineering feasibility, and, third, the security for the bonds.

Now, before an irrigation district can place its bonds, they must have some sort of title to the water, and that is why gentlemen, I am interested here to-day. If this bill passes, no matter how much water may be left to be utilized upon this land, we will not have legal title to one drop of water. That State commission would not think of approving our bonds, under no circumstances could they approve the bonds, no gentleman of this committee who is a lawyer would think of approving the bonds of an irrigation district based upon the conditions which exist here. We want, and I believe it is possible, with due protection to San Francisco, to have such a law as will enable these districts to have some clear right to the use of this water, at least while it is not diverted to San Francisco.

My remarks are rather disconnected, but I wish to say this, that while the taking of this water to San Francisco means the ultimate destruction of 200,000 acres of land, that I believe is more academic than practicable at the present time, because that condition will take place a great many years from now and this condition will then exist: As irrigation extends the lower areas of the irrigation districts become saturated with water; in other words, the water level rises, and it is feasible by cheap power to pump that water into the canals to use for irrigating the land farther on. And I believe that condition will exist in the Modesto and Turlock irrigation district, that in some years from now it will be possible by the obtaining of cheap power from the city and county of San Francisco to pump the water from the lower levels and utilize it for irrigation in the higher ground, and therefore realize a certain amount of the appropriation of the Modesto and Turlock irrigation district for lands higher up; but in the meantime we have no legal right to any water for this land, although it may be going to waste.

The CHAIRMAN. Does it not appear here in the records somewhere that some concession was made to your people in the agreement that was made with the Secretary of the Interior as to the distribution of this water?

Mr. DENNETT. That was a gracious concession, something like that in the story of the buzzard and the turkey—a concession on its face, but there was no concession. The Modesto and Turlock irrigation district have perfected, as is recognized in the Garfield grant, a legal right to divert 2,350 second-feet of water.

Now, the city of San Francisco has graciously consented that the districts might do that which the law under proper circumstances would permit them to do, increase their area to 300,000 acres, but increase in the acreage without increase of water is of no value.

There is this further question—and I wish to be perfectly candid with the committee—that you may understand the dilemma in which I am placed—

The CHAIRMAN. Is that what was done here, would you say?

Mr. DENNETT. Yes, sir. And I do not impute any question of good faith. I have the utmost respect for both Mr. Long and Mr. O'Shaughnessy in this matter, and I recognize the untiring ability and energy and their unflinching courtesy in this discussion, and the clause was inserted in perfect good faith, but, as a matter of fact, it doesn't relieve us from the situation with which we are confronted.

Mr. TAYLOR of Colorado. Does not the bill increase the water allowance?

Mr. DENNETT. They did not increase the water allowance at all.

Mr. TAYLOR of Colorado. Not at all?

Mr. DENNETT. Not at all.

The CHAIRMAN. Is that amount of water only enough to irrigate 250,000 acres?

Mr. DENNETT. My opinion is that it is only sufficient.

The CHAIRMAN. What do you say about that, Mr. Long?

Mr. LONG. I can not agree with Mr. Dennett. At the suggestion of the Turlock and Modesto irrigation districts we changed the form of the bill from the limitation to the districts as now constituted—that was the original form of the bill—to permit that watering 300,000 acres. We increased the district from 250,000 to 300,000 acres at the request of the representatives from the Turlock-Modesto districts. At first the request was made by Mr. Needham that we increase it 20,000 acres, in order to provide for this area which Mr. Dennett mentions. Then the Turlock people said there was about 30,000 acres adjacent, or 23,000 acres, to the Turlock district which wanted to be watered, and they came in and asked us to permit that use in that territory. So we added that territory to it and increased the entire area by 300,000 acres. Now Mr. Dennett comes in and says, "We want you to make an allowance to us for water." Mr. Dennett represents a district which is not yet organized, which has made filings, but has never put a drop of water to beneficial use; which has not any rights under the State of California.

The CHAIRMAN. He probably contends he has, but for the sake of argument let us assume he has no rights. Even then, if a concession was made, presumably to take care of his 20,000 and another 30,000 acres, what good does it do, or is it at all a concession, to increase it to 300,000 acres unless you give him the water?

Mr. LONG. Representations were made to us by representatives of the two districts that the water they had would be ample.

Mr. TAYLOR of Colorado. These two districts have not agreed to give him any of their water right?

Mr. LONG. I understand they would probably be willing to take them in. We certainly can not—

Mr. TAYLOR of Colorado. Are they going to prorate with him?

Mr. FULKERTH. If we have any water over, we will be perfectly willing for him to have it; but, of course, we expect to use that water up to the extent of beneficial use.

The CHAIRMAN. Mr. Dennett, just what are your legal rights?

Mr. DENNETT. Our situation is this—

The CHAIRMAN. This will become important to the committee when we come to make up the bill. What are your legal rights?

Mr. DENNETT. Our legal rights are these: Under the law of the State of California the organization of a district is accomplished by the filing of a petition, signed by a majority in number of the landowners representing a majority in value of the land within the district, with the board of supervisors. Such a petition has been prepared, properly signed, and has been filed, and hearing takes place on the first meeting of the board of supervisors in July.

The CHAIRMAN. So you really have not had your petition passed on?

Mr. DENNETT. No.

The CHAIRMAN. When was it filed?

Mr. DENNETT. It was filed about two or three weeks ago. The vote of the landowners—

Mr. SINNOTT. The vote of the landowners will determine?

Mr. DENNETT. The vote of the landowners will determine.

The CHAIRMAN. Three weeks ago you filed the application, signed by the required petitioners?

Mr. DENNETT. This was the result of a year or so of work and surveys.

The CHAIRMAN. Filed with your board of supervisors?

Mr. DENNETT. Yes, sir.

The CHAIRMAN. That corresponds to our board of county commissioners?

Mr. DENNETT. Yes, sir.

The CHAIRMAN. That has not as yet been acted on?

Mr. DENNETT. That has not as yet been acted on.

The CHAIRMAN. When they do act on that favorably then it is submitted to a vote?

Mr. DENNETT. It then is submitted to a vote.

The CHAIRMAN. And neither of those things have been done.

Mr. LONG. Then you must issue bonds?

Mr. DENNETT. No; it may be accomplished by direct assessment if we can raise the money in that way.

The CHAIRMAN. It has not come to the point of putting water to beneficial use?

Mr. DENNETT. No; but I can state this: A year ago—I do not profess to be exact—various landowners in the district, in order as far as possible to protect their rights, made a filing for the benefit of the proposed district. What the legal effect of those filings may be I am not prepared to say.

The CHAIRMAN. The committee knows nothing about what are the legal rights. You tell us as a lawyer that the law of California says this. We do not understand the local statute.

Mr. DENNETT. As I understand the law to be, when the filing is made for irrigation, work must be commenced within 60 days, and prosecuted to a completion with due diligence, considering the magnitude of the undertaking. The irrigation law also specifically dedicates and sets apart to irrigation districts the unappropriated waters of the State of California within the district.

The CHAIRMAN. After those preliminary filings were made, did your people or did they not do the things under the statute that would preserve your rights and keep it alive up to the filing of this last act?

Mr. DENNETT. We commenced and continued our surveys, and the work of development which has been done is sufficient to keep alive our filings.

The CHAIRMAN. Had that application ever been approved?

Mr. DENNETT. The application is not required to be approved. It merely requires it to be filed, and it is a question of fact as to whether or not due and diligent work has been done to keep it alive.

Mr. TAYLOR of Colorado. We want to know, and most of the committee do not know, or at least a large part of them do not know, anything about those irrigation matters. We have irrigation laws in Colorado, but they want to know whether you are simply an interloper, with a paper proposition or promotion, or whether you come with some genuine and vested rights here that this committee would be doing violence to if we should ignore it.

Mr. DENNETT. It was my endeavor to make it as clear as I could. My own conviction as a lawyer is that we have a good and a valid right to 200 second-feet of water. The date of the filing by San Francisco I do not know; whether ours was subsequent to the filing of San Francisco I am not aware.

Mr. KENT. Where are we going to get that 200 second-feet of water? Do not the other filings that are already perfected take up all the water?

Mr. DENNETT. If we are prior to San Francisco—and I may say that the question of due diligence applies to San Francisco as well as to these irrigation districts, and that we are exactly in the same situation.

The CHAIRMAN. Because San Francisco proposes to spend sixty or seventy million dollars?

Mr. DENNETT. I mean under the laws of the State of California.

Mr. LONG. But this juncture would come. Where do you propose to get this water?

Mr. DENNETT. The situation is this: The Tuolumne River, as has been testified to, is what you might call a torrential stream; during many months in the year the flow is very large. The Modesto and Turlock irrigation districts, subject to a smaller appropriation of approximately 50 second-feet by the La Grange Power Co., have prior rights to the extent of 2,350 second-feet. Our rights, we contend, come second or next after the rights of the Modesto-Turlock irrigation districts, to such an amount thereof as may be necessary for the beneficial irrigation of this land.

I will state further—it varies, of course, in different years—but up to the middle of June the amount of water flowing in the river is considerably in excess of 200 second-feet over the appropriation of the Modesto and Turlock irrigation districts.

Mr. KENT. Mr. Dennett, if this legislation were delayed, what would prevent every other town and district in the valley getting prior rights ahead of San Francisco?

Mr. DENNETT. In the first place, Mr. Kent, the possibilities for diversion are limited. As I stated in the beginning, my own personal convictions are very firm that it would be a great blessing to the State of California if all of that land could obtain prior rights to San Francisco. I will be candid in the statement.

Mr. KENT. I am thinking about that particular case.

Mr. DENNETT. But I would like to call the attention of the committee to this fact, that while we believe that the right of the Waterford irrigation district has been perfected to this amount of water, and I am inclined to believe that it is superior to that of San Francisco—although I say that with some hesitancy—we do believe that this committee is justified in taking into consideration, as custodians of public property, the greatest possible requirement of that river and of the land which is most immediately dependent upon it.

Mr. TAYLOR of Colorado. Why is it that you are the only man of the whole State of California that is here presenting this public view? Why do they not rise up en masse and "swat" us?

Mr. DENNETT. I am glad to answer that question. I did not come here asking for a continuance, because I do not believe ordinarily in delaying proceedings. It was the general understanding of the people of my own community and of myself, when it was rumored that San Francisco had some sort of an arrangement with the Spring Valley Water Co., that under the testimony which heretofore had been given that it would be possible to develop the resources of that company so as to provide for the city for several years, this matter would probably not be acted on at this special session. We knew it was before the committee. I did not come on here with the others who came from my county, because I hardly anticipated that this matter would come up for action at this time. That is also the opinion of a large number of people in the San Joaquin Valley. I would like to state further that, as you are probably aware, the people in the average farming community, no matter how vigorously insistent they may be on their rights, are generally not very active in organizing for the direct protection of their rights, and these people are the sons of people who have been down there for years—without right, I freely admit, but they have equities to be considered, and they are entitled to consideration. Let us assume, as was stated in the telegram from Mr. West, which the chairman read yesterday, and in which I concur, that the Tuolumne River belongs to Stanislaus County, and that there is some God-given provision whereby we are not to be deprived of that river or the use of the waters thereof. I think you gentlemen are pretty familiar with the attitude of the people in the ordinary rural district, and realize the situation. Every chamber of commerce, every board of trade, and I believe I may say every board of supervisors in the San Joaquin Valley, has protested against this proposed grant.

Mr. TAYLOR of Colorado. Does that protest still hold good in view of the agreement that was attempted to be entered into?

Mr. DENNETT. Well, as I said in the beginning, I do not wish to appear here as opposing the grant to San Francisco, but the protests do go to that extent.

Mr. KENT. Is any part of the Turlock or Modesto districts located in Stanislaus County?

Mr. DENNETT. Almost all of the Turlock district is in Stanislaus County. That is what Stanislaus County is interested in. I think Mr. KENT is familiar with the fact that when an attorney comes into court and gets what his client wants he is not so altruistic as to insist on whatever the public wants; and if I can obtain the rights of the people who sent me, if I can safeguard the interests of the people I represent, if I can get what my clients want, I am not opposed to what the others want, though I do not argue for them.

Mr. KENT. What do you think of the law of California concerning the "highest use"? Are you of the opinion that if in the future it should be found that the highest use of this water was for irrigation in the San Joaquin Valley, that San Francisco would acquire the prescriptive right to it, subject to State regulation?

Mr. DENNETT. I am glad you asked me that question. I was coming to that point.

Mr. KENT. What is your opinion?

Mr. DENNETT. I hardly think so. The city of San Francisco can condemn irrigation waters for domestic purposes on the ground that domes-

tic use is the highest use, but I can hardly conceive the circumstances under which an irrigation district would be permitted to condemn water used for domestic purposes for irrigation purposes.

Mr. KENT. I can not see that at all. I do not follow that. I think if there is a bad distribution, an inequitable distribution of the State's water assets, the one would be as much subject to condemnation as the other.

Mr. TAYLOR of Colorado. There can not be any such law as that, Mr. Kent.

Mr. KENT. I am not a lawyer, but I had an idea that such ought to be the law of condemnation.

Mr. DENNETT. That is my understanding and I think it ought to be the law.

Now, the situation, if I may come down to the concrete discussion of my own particular troubles with water for irrigation purposes, is this: Under this agreement San Francisco is permitted to divert 400,000,000 gallons daily. She will not be called upon to divert more than 200,000,000 gallons daily for 50 years. There are, then, 200,000,000 gallons daily which will not be used for many years to come, the status of San Francisco being that of the dog in the manger. She does not want to use it and can not use it, and the irrigation districts can not use it because it can not be bonded.

I have drafted an amendment to the pending bill which seems to me might meet the conditions without injuring San Francisco unduly, and is in accordance with the suggestion made by Director Smith, of the Geological Survey. It has been very hurriedly drafted and may be subject to correction, but it embodies substantially the idea I have in mind, and as a representative of the Waterford district I would like to offer it to the committee. It reads as follows:

"Provided, however, That whenever any land adjacent to the Tuolumne River requires it and has no other adequate source from which to obtain water for the beneficial irrigation thereof, the Secretary of the Interior shall require of the grantee that sufficient water be released for the beneficial irrigation of such land upon the prepayment by the owners thereof to the grantee of a proportionate amount of the cost of storing and delivering such water, always, however, taking into consideration in determining such cost the profits to the grantee from the generation of electrical energy. And provided, also, That the word 'owners' as above used shall be held to include irrigation districts, other than the Modesto and Turlock irrigation districts, now or hereafter organized upon the Tuolumne River; and that the Secretary of the Interior shall determine the amount of water to be released and the time when and the terms and conditions upon which such water shall be released."

Now, gentlemen, God Almighty has placed a limitation upon the use which can be made of the waters of the Tuolumne River. This report of the conservation commission goes into detail as to the lands which are supplied by the various rivers. While of course it would be perfectly feasible to pipe this water to the various irrigation districts, I am inclined to the opinion that it would undoubtedly be rather difficult to stand the expense. We have a maxim down in our country that "water is worth whatever it costs to secure it." I think that is practically true. I am the attorney for a project down there adjoining the Turlock-Modesto district known as the South San Joaquin irrigation district which has bonded itself for \$56 an acre to construct an irrigation district. When the Modesto district was organized the people were afraid of a bond issue of \$16 an acre. That shows the progress of public opinion. I am inclined to think that if those 150,000 acres were organized bonds could unquestionably be issued and sold for an amount large enough to construct the necessary works.

Coming down to the Waterford district, the Waterford district proposes to divert the normal flow of the river and the Turlock district contemplates the construction of a dam above the point of diversion to conserve an amount of water agreed upon by both districts, thereby supplying us with the amount of water we need.

The CHAIRMAN. Let me ask you about this amendment. If San Francisco is going to spend fifty or sixty or perhaps seventy or eighty million dollars on this proposition, do you not think that before such an amendment as this is agreed to there ought to be some sort of proviso in that amendment which would make your rights subject to San Francisco? In other words, we ought not to force San Francisco to irrigate your land for you to the exclusion of the necessary beneficial use of that water for the city of San Francisco.

Mr. DENNETT. Well, Mr. Chairman, the people I represent are the sons of people who settled upon that land years ago; they have farmed that land for years, until it has become impoverished. Much of it is moist and under irrigation it becomes fertile.

Mr. TAYLOR of Colorado. Has that land ever been irrigated before?

Mr. DENNETT. No, sir; and without irrigation it is becoming less valuable. What we want is that some sort of provision be made by the city of San Francisco which will show that we have a substantial water right, sufficient for the authorization of a bond issue, because, as I stated before, I believe that in the future, with the pumping of the subsurface water in the Turlock and Modesto irrigation districts, the water supply will be increased to such an extent that San Francisco can well afford to release the amount of water she is asked for. But practically, as the demands of the district now stand, this land is left without any water at all, and being left without any legal claim to water, it is placed in an unfortunate situation.

Now, gentlemen, I want to impress upon you and the gentlemen from San Francisco what irrigation means to this district, this portion of California, which is the most fertile piece of land that God placed here, land that has furnished comfortable homes and subsistence for generations, right at the door of San Francisco. As Director Smith suggested, as the years go on the highest development of the resources of the State of California require that San Francisco should obtain her water supply from the San Joaquin Valley, and Mr. Smith also suggested that she would be altruistic enough to look out for others when she had more than she needed. But when that time comes, I am candid in saying that the Secretary of the Interior could have and would have the right to compel San Francisco to release all her water supply, and unless she was reimbursed she would have to go elsewhere.

The CHAIRMAN. Let me understand you now. I want to get your position clearly. San Francisco anticipates, and all these engineers' reports anticipate, that at some time in the future she will need 400,000,000 gallons daily?

Mr. DENNETT. In the very distant future; yes, sir.

The CHAIRMAN. I think it is the opinion of all of us that in no immediate future will she need 400,000,000 gallons daily.

Mr. DENNETT. Yes, sir.

The CHAIRMAN. Now, suppose, however, that San Francisco gets this 400,000,000 gallons daily from the two sources. Would you think, after she had made this expenditure, built these roads, built this dam, and bonded her city to bring this about, that even if she needed the full amount, she ought to be forced to give you a part of it?

Mr. DENNETT. In my capacity as a believer in the principle of conservation of the resources of California, I do.

The CHAIRMAN. Your amendment would make this possible?

Mr. DENNETT. It would.

The CHAIRMAN. Even though she expended all that money?

Mr. DENNETT. Yes, sir.

The CHAIRMAN. Even though she built this reservoir?

Mr. DENNETT. Yes, sir.

The CHAIRMAN. The people of Stanislaus County and the irrigation districts could step in and take the water away from the people of San Francisco and appropriate it to their own use?

Mr. DENNETT. Yes, sir.

The CHAIRMAN. Do you feel that you should urge a position so strong as that?

Mr. DENNETT. Now, Mr. Chairman, I do not care to urge that. I would be satisfied with less. Mr. Smith stated that he favored this proposition, that he recognized—I am not quoting him verbatim, but this is substantially what he said—that he recognized the fact that the highest use required that the water be taken from the San Joaquin Valley, but that he favored this proposition because if the time ever came that this land required the water he believed that San Francisco would be willing to let us have the water and that other arrangements could be made for getting their water.

Mr. TAYLOR of Colorado. I understood him to mean that they could develop some supplementary flow.

Mr. DENNETT. Yes; that is it. I might ask this question: Why should San Francisco take in all these bay cities? And I would like to ask Mr. O'Shaughnessy a question, if I may, Mr. Chairman.

The CHAIRMAN. Yes.

Mr. DENNETT. Mr. O'Shaughnessy, is it not possible that the cities on the opposite side of the bay from San Francisco can obtain a Sacramento supply at less expense than San Francisco, and does not the added expense arise from crossing the bay?

Mr. LONG. They have the same objection.

Mr. DENNETT. Mr. Manson stated to me in one of the former hearings that the objections which were urged by him to the Sacramento supply on the ground of cost did not equally apply to the other bay cities. I am not sufficiently familiar with the engineering features of the situation to know whether there is anything in it or not, and I would not like to express an opinion.

Mr. O'SHAUGHNESSY. May I answer your question?

Mr. DENNETT. Could not a Sacramento water supply be brought to the bay cities on the other side of the bay from San Francisco more cheaply than to San Francisco?

Mr. O'SHAUGHNESSY. Certainly it could be brought more cheaply.

Mr. DENNETT. Admitting that this expense from Sacramento Valley to San Francisco is responsible for the opposition to a Sacramento supply, yet, nevertheless, if San Francisco can develop her own resources the bay cities on the other side of the bay can obtain an adequate supply at a reasonable cost from Sacramento River. This would not involve an entire elimination of the supply of San Francisco.

Mr. TAYLOR of Colorado. You mean changing the supply. But would not your amendment here jeopardize the right of San Francisco to place bonds for all this \$70,000,000?

Mr. DENNETT. I do not think the amount of water which would be diverted would be sufficient to do that.

Mr. GRAHAM. Do you think the city would be justified in making the expenditures, even though the other cities were eliminated and San Francisco alone were involved in the scheme?

Mr. DENNETT. My answer is that I do not believe San Francisco would have a sufficient local supply. Now, I am answering these questions, but I am not an engineer.

Mr. O'SHAUGHNESSY. Mr. Nolan has expressed to you the desire of those cities.

Mr. DENNETT. They want it, of course; there is no question about it. But I beg your pardon; I do not wish to appear so broadly in the record. There is a demand, but I am inclined to think that the preponderating sentiment is against it.

Mr. TAYLOR of Colorado. What you want is some practicable way by which your people can get water?

Mr. DENNETT. Yes, sir.

Mr. O'SHAUGHNESSY. Mr. Dennett, last Sunday you had a conference with colleagues from Stanislaus County, and they entered into an arrangement with you for the distribution of that water, giving you some of it, and before you left there they arranged to give you the water for the Waterford district, and you did not want it; you refused it?

Mr. DENNETT. The terms were not acceptable.

Mr. O'SHAUGHNESSY. They are your neighbors?

Mr. DENNETT. They were all of them good lawyers—

Mr. O'SHAUGHNESSY (interposing). They adjoin you?

Mr. DENNETT (continuing). Who were hired to represent the Turlock and Modesto districts—

Mr. O'SHAUGHNESSY (interposing). They offered you the water?

Mr. DENNETT (continuing). And I think they made a very good settlement.

Mr. O'SHAUGHNESSY. And they were such good lawyers they did not want to have anything to do with you? [Laughter.]

Mr. DENNETT. They were not concerned in my particular project. They did not want to have anything to do with it.

The CHAIRMAN. Mr. Dennett, it is 6.10 now. How long will it take you to conclude?

Mr. DENNETT. I think I am through, with the exception of one other matter I would like to refer to—the Tracy project.

Mr. CURRY. There is a tract of 60,000 acres reaching from near Tracy to the Alameda line, known as the Tracy project. They do not want water, but power. Mr. Dennett is the attorney for that district. I have been requested by telegram to refer the matter to him, and I would like to have him explain the legal rights and equities of the Tracy district. I think the 60,000 acres can be made very productive with the water they can pump from the San Joaquin Valley. The only objection I have to this bill is that they have 120 horsepower in the mountains, and they are not required to develop it, which I think they ought to do. I would like to have Mr. Dennett speak on this matter.

The CHAIRMAN. How long will it take to dispose of it?

Mr. DENNETT. Fifteen minutes. I have nothing further to state on the original proposition.

The CHAIRMAN. We want to close the hearings as soon as we can.

Mr. DENNETT. Mr. Chairman, there is one thing I would like to ask. My amendment does not appear to have met with a very gracious reception, and I would like the committee to consider the practical claims, at least, to that 20,000 acres. I would like to submit to the committee in writing some modified statement. I believe what we ask is not unreasonable, but I would like to file a modified statement.

The CHAIRMAN. I will put your original amendment in the files of the committee, and if there is anything else you want to file you may do so.

Mr. RAKER. Now, suppose the committee receives a telegram from Mr. Sullivan to-night, you do not want to hold this over seven or eight days, do you?

Mr. THOMSON. When would the committee take up the bill, then? What is your idea?

Mr. RAKER. Not until the evidence is all in.

The CHAIRMAN. If this man comes we must hear him. If he does not—well, we are called together for the 7th, anyhow.

Mr. RAKER. Suppose he telegraphs to-night that he will not come that relieves these gentlemen from staying here and they can go home.

The CHAIRMAN. That is the idea.

Mr. DENNETT. Now, in regard to this Tracy matter. The Tracy irrigation district is in process of construction in the San Joaquin Valley near Tracy, and I am the attorney for those people. At first blush it appeared to me that they were not interested in this question, but in the light of the testimony given by Mr. O'Shaughnessy I am inclined to think that they are. His testimony was to the effect that the diversion of the 400,000,000 gallons daily to San Francisco might interfere with the natural flow of the lower Sacramento, and that in time they might have to move their pumping plant farther up.

This is on a river that is tributary to the Tuolumne River, and they propose to pump their water by a series of four lifts, running it to the contour. Of course, the main cost in this connection is the cost of power. Let me say this: The Tuolumne River is the only river in California on which power has not been developed, and San Francisco is obtaining what is probably of more value than water—power. These people have felt that all the public corporations in the immediate vicinity of San Francisco might justly ask for some sort of recognition in this request, which is not unreasonable. I presume that San Francisco should be willing to sell its power at a reasonable cost. When a small water district is formed at San Francisco and an area in the Stanislaus region asks to share in all that tremendous amount of power that can be developed, I am inclined to think that my friends in Tracy are not unjust in their request. I think the people in that district have some equitable rights there, and municipalities, like private corporations, are not always disinclined to take advantage of the necessities of the people to whom this is a commodity.

I think that in the final draft of this bill a liberal provision should be made for the municipal or public corporations in the vicinity of San Francisco.

The CHAIRMAN. Inasmuch as we are hearing the whole matter through, what would be the objection to having you prepare an amendment that you would be willing to stand on and a short statement or brief in support of it, submit it to Mr. Long, and he, after conference with his people, can submit a brief in reply; then the committee can consider them when it comes to take up the bill section by section—on this Tracy proposition and also on the other proposition?

Mr. DENNETT. That will be all right.

Mr. O'SHAUGHNESSY. Mr. Chairman, may I ask Mr. Dennett a question?

The CHAIRMAN. Certainly.

Mr. O'SHAUGHNESSY. Mr. Dennett, do you know that there is a similar pumping proposition at the Patterson ranch?

Mr. DENNETT. Yes, sir.

Mr. O'SHAUGHNESSY. And that they are selling power at three-fourths of a cent per kilowatt-hour?

Mr. DENNETT. Yes, sir.

Mr. O'SHAUGHNESSY. There is an abundance of such power in California?

Mr. DENNETT. Yes, sir.

Mr. O'SHAUGHNESSY. And that no irrigation district that is intended to be formed is suffering under any hardship for lack of power?

Mr. DENNETT. Yes, sir. Mr. Patterson purchased a large amount of power at a very reduced rate—I think it was 32,000, though I am not sure—and he is now selling the power at a very low rate.

Mr. RAKER. You are not of the opinion that water power to-day is in the hands of a monopoly?

Mr. DENNETT. There is no monopoly there.

Mr. RAKER. It is not a fact, then, that the water-power companies of California are an absolute monopoly?

Mr. DENNETT. They are competitors at the present time, and power is sold at 1 cent per kilowatt-hour.

Mr. RAKER. Any statement that electric power in California is under one great monopoly and absolutely controlled by a monopoly in the State is not a fact?

Mr. DENNETT. I do not think it is true.

Mr. RAKER. Yes. That is all.

Mr. GRONNA. I will also ask to have printed one or two letters and statements made by Mr. Frank Adams, irrigation manager of the Modesto and Turlock irrigation districts, also extracts and clippings from the New York Times, under date of July 12, 1913, and also other papers and documents relating to the subject.

The PRESIDING OFFICER. In the absence of objection, permission to do so is granted.

The matter referred to is as follows:

HETCH HETCHY VALLEY.

The water users of the Modesto irrigation district and the owners of other lands which are not now receiving any water from the Tuolumne River ask Congress to postpone action on the Raker bill (H. R. 7207) until it has given consideration to the rights of the water users.

No emergency exists that calls for immediate action by Congress. It will take at least five years to bore the tunnels. (See Freeman's report, p. 74.) The San Francisco Chronicle of September 26, 1913, says: "It will be years before we get the water to the city."

The Chronicle of September 3, or thereabouts, says: "Contractors for the exposition company have completed one well from which water is being pumped at the rate of 400 gallons a minute, which is over 500,000 gallons per day. Three more wells are to be sunk, and if they yield as abundantly the aggregate yield will be 2,000,000 gallons

per day, which is one-twentieth of the average demand on the Spring Valley system. The water is claimed to be excellent. An official of the contractors says they will develop water "which will supply 1,000,000 people during the exposition year." If it will do that for the exposition year, it will do it for succeeding years, and we can tell both Spring Valley and Congress to go hang until our population exceeds a million.

San Francisco, by agreement with the Spring Valley Co., is now engaged in condemning the local water system owned by the Spring Valley Water Co., and for which they will pay from \$35,000,000 to \$40,000,000, and the water which they will need for many years to come is being provided for by said company at the present time by the construction of the Calaveras Dam.

At present San Francisco has no legal claim to the waters in the Hetch Hetchy Valley. The Modesto Irrigation district has a legal right to the waters of the Tuolumne River to the extent of its filing. This filing of 5,000 second-feet was made long prior to any filing made by San Francisco on the river.

The Modesto Irrigation district can beneficially use from 1,200 to 1,400 second-feet of water. At present her ditches are developed only to the extent of 716 second-feet, but for several years her main ditch has been under process of enlargement, and a considerable portion of it has already been built with cement construction to carry 1,400 second-feet.

Under the allowance provided for in the Raker bill the water users of the Modesto Irrigation district will receive but 740 second-feet of water. The 716 second-feet which they now have barely enables them to cover the land once a month, and does not give the best of service. They have 48,000 acres in cultivation (almost entirely in alfalfa) and they have 33,000 acres of unimproved land, which, under the terms of the Raker bill, will be left unprovided for, unless after long and expensive litigation with San Francisco the Modesto Irrigation district can beat her in the courts.

If San Francisco is not given the Hetch Hetchy Valley immediately, the Modesto Irrigation district can complete its ditches, apply the water to the unimproved land and protect itself as far as the natural flow of the river is concerned. The Modesto Irrigation district is absolutely unable to protect itself unless Congress protects it. Before Congress can decide what protection the water users of the Modesto Irrigation district and adjoining landowners should have, it must ascertain the facts as to their needs. It should have full and complete evidence before it. There is no such evidence before Congress at the present time as would justify it in acting in this matter to the detriment of hundreds of water users. As a matter of fact, there has been no evidence submitted to Congress showing the water users' side of this question.

STORAGE WATER.

The Modesto Irrigation district has no storage facilities except a reservoir built at the edge of the foothills. It cost \$8.50 per acre-foot for 30,000 acre-feet. So far it has not been a success, because of large evaporation and large seepage. It is a large shallow reservoir. Excepting the large reservoirs, storage facilities on the upper Tuolumne are rather poor, and so far the Modesto Irrigation district has not been able to obtain good reservoir sites in the high Sierras, as San Francisco has the best ones—Eleanor and Cherry Creek.

The Hetch Hetchy Valley is a deep gorge narrowing down to a point where a dam can be built very cheaply in a granite formation. (See hearing before Committee on Public Lands, H. R. 6281, pp. 133-134.) This dam can be built for \$3,156,000, according to the estimates made by Engineer Wadsworth (report of Army engineers, pp. 130-131). Pages 288 and 300 of Freeman's report give the items of cost on part of this dam and shows the estimated cost too great. Notice the items of \$166,000 for land and \$83,100 for interest on the first portion built, costing \$1,315,500.

Luther Wagoner, consulting engineer for the Modesto Irrigation district and the Turlock Irrigation district, in their hearing before Secretary Fisher, says the dam can be built for less than \$2,000,000. In any event, the dam can be constructed for less money than any other dam on the Tuolumne watershed. (For low cost, see Freeman's report, p. 154.)

The Irrigation districts and the other land tributary to the Tuolumne River can bear the expense of building it without any hardships whatsoever. It will store 340,000 acre-feet of water. There are 300,000 acres of land to share in the cost, which would be from \$7 to \$12 per acre.

The Modesto Irrigation district has a bond issue of less than \$20 per acre, the Turlock Irrigation district less than \$15 per acre. The south San Joaquin Valley Irrigation district, adjoining this land, has a bonded indebtedness of \$56 per acre, which it is amply able to pay, and which the Modesto Irrigation district and other districts would be willing to pay for a complete water supply. The cost of developing the Hetch Hetchy is trifling, considering the benefits the land will receive.

Without storage water the Modesto Irrigation district and other districts will be without water. About the early part of July the water quits coming, and after that, for the balance of the season (about one-half of the season), the land will be dried up and growing no alfalfa if the Raker bill passes. The only exception to the foregoing is a small subirrigated area.

If we had the Hetch Hetchy water, in addition to furnishing water for the 257,000 acres in the Modesto and Turlock Irrigation districts and 45,000 acres of land adjoining, it would furnish us power with which to pump water on 100,000 acres of land lying directly across the San Joaquin River from the Turlock and Modesto Irrigation districts. This district can pump water from the San Joaquin River where it joins the Sacramento River. Its success or failure depends entirely upon how cheap it obtains power. It is without doubt the finest body of undeveloped land in the State of California.

No proper or sufficient information is before Congress upon which to settle the question as to exactly how much of the water of the Tuolumne River should be taken out of the valley by San Francisco. They have filings on Lake Eleanor and Cherry Creek, which will enable them to store and take away from the valley something like 300,000 acre-feet, and before Congress permits them to take any more water from the valley it should investigate the claims of the people living there and find out what their necessities and requirements are now and what they will be in the near future.

Should the grant be made, no further investigation can help the people who will be so seriously injured, and no provision in the bill referring them to the State courts or the State laws is of any practical use or advantage to them. If San Francisco stores the water it is hers.

This Hetch Hetchy Valley is a gift of great value; it is worth millions of dollars, and Congress should hesitate long before leaving the people of the community that should receive this water and power to

the tender mercies of the San Francisco politicians on one hand and the power trust on the other. We will get the worst of it on both sides.

OTHER SOURCES OF SUPPLY FOR SAN FRANCISCO.

San Francisco has many other sources of water supply; but having determined to get the Hetch Hetchy, she refuses to look in any other direction except with an unfriendly eye.

Although the city of Sacramento, with a population of about 100,000, has recently decided to continue to use Sacramento River water, after filtering it, San Francisco will have none of it. Its cost would be small—only \$18 per million gallons for installation, with filters, and only \$17 for maintenance, including pumping. (A. and E. report, p. 136.) Cost of installing second and third units still less. Total cost of installation, about \$50,000,000.

The McCloud River project (Mount Shasta Aqueduct) is almost a counterpart of the Los Angeles project. The length is the same, but there is additional cost in crossing rivers. This project has never been worked out carefully, as the San Francisco engineers were hostile to it, but it is not as great a project for the bay cities, with their large population, as the Los Angeles Aqueduct was for Los Angeles.

Its cost is less than the Hetch Hetchy; \$64,951,100, as compared with \$77,367,400 for Hetch Hetchy. (See p. 138, Army engineers report.) All these figures are on the basis of 400,000,000 gallons daily.

The advantage of taking water from either Sacramento or McCloud Rivers is that it takes water away from a valley where there is too much water and where Congress has been and will be asked to help get rid of flood waters.

The claim made by San Francisco that she would leave Sacramento Valley short of water for irrigation or navigation if she got her supply there is a huge joke to one conversant with the excessive amount of water in that valley.

If the principles of conservation were followed, San Francisco would be compelled to go to the Sacramento Valley for her supply.

Let me quote from a letter written May 27, 1913, to Dr. Thomas F. Hunt, dean and director, Berkeley, Cal., by Frank Adams, irrigation manager of the irrigation investigations conducted by the United States Department of Agriculture office at Berkeley, Cal., the seat of the State university.

"As I have heretofore stated to you in our conversations about the use of Hetch Hetchy by San Francisco, it is my notion that the important consideration is not how much water Modesto and Turlock Irrigation districts need, but how much San Joaquin Valley needs. Our studies show a total irrigable area in San Joaquin Valley of about 7,576,000 acres, including plains, but exclusive of foothills. Of this 1,728,975 acres were figured as being irrigated in 1912, with 3,850,000 acres estimated as the probable future maximum irrigated area. The total mean annual flow of all streams entering the valley is about 12,000,000 acre-feet. Our studies show a total irrigable area of valley and plains most naturally tributary to Tuolumne River of about 450,000 acres, of which approximately 240,000 acres are within Modesto and Turlock districts. Further, there are additional areas of irrigable land both north and south of the Modesto-Turlock area on which Tuolumne River water could be advantageously used if that river furnished a supply in excess of the needs of the 450,000 acres of plains and valleys most naturally tributary to it.

Turning to Sacramento Valley, from which an alternative water supply for San Francisco has been seriously considered, we find conditions as to irrigation resources to be the reverse of those in San Joaquin Valley. With a total mean water supply annually flowing out of the valley, according to the best data available, of 26,000,000 acre-feet, and a mean annual inflow at Red Bluff alone of 10,400,000 acre-feet, the total area of land surface, including both valley floor and plains, is approximately 3,400,000 acres.

In other words, San Joaquin Valley has more than twice as much irrigable land surface as Sacramento Valley and less than one-half as much water tributary to it. Yet the irrigation requirements in Sacramento Valley, with an average annual rainfall at 18 stations of a little more than 20 inches, are considerably less than the irrigation requirements in San Joaquin Valley, where the average annual rainfall for 10 stations is a little less than 10 inches.

Yours, truly,

FRANK ADAMS,
Irrigation Manager.

The undersigned represents the water users, copies of whose telegrams to Senator MYERS are attached hereto; also the Waterford Irrigation district; also the West Side people who are trying to organize and pump from the San Joaquin River.

W. C. LEHANE.

MODESTO, CAL., September 23, 1913.

HENRY L. MYERS,
Chairman Senate Public Lands Committee:

We, the undersigned committee, representing the water users of the Modesto Irrigation district, 475 of whom have signed a petition to the effect that the lands tributary to the Tuolumne River are able and willing to store the Hetch Hetchy waters, and asking and urging that the Senate postpone action on the Raker bill and appoint a commission to investigate and report on our claims. Said petition was signed by 99 per cent of the water users to whom presented. W. C. Lehane, of this committee, will represent us in person before your committee.

LEVI WINKLEBLECK, Acting Chairman.

MODESTO, CAL., September 23, 1913.

HENRY L. MYERS,
Chairman Senate Public Lands Committee:

The undersigned, representing the water users of the Turlock Irrigation district, 100 of whom have this day signed a petition setting forth that lands contiguous to the Tuolumne River are ready and able to store the waters of the Hetch Hetchy, and request that the Senate postpone action on the Raker bill and appoint a committee to investigate and report on our claims. Said petition was signed by 98 per cent of the water users to whom it was presented.

THOMAS CASWELL.

HETCH HETCHY VALLEY.

In the debate on the Raker bill last Saturday Senator NEWLANDS said, in effect, that in a struggle for water, the "thirst of the people" must prevail over the "thirst of the land," even though 200,000 acres of land must remain forever without water.

In California, with its long seasons and high-priced products, the yearly crop on 200,000 acres of land is worth from \$10,000,000 to \$20,000,000 yearly. This is too valuable to be lost forever.

The only reason San Francisco is going to the Tuolumne instead of the McCloud River or other sources is because of cheapness. She does not need to take a drop of water out of the dry San Joaquin Valley in order to have an ample supply of mountain water.

The Army engineer's report, page 19, says:
"McCloud River rises on the south side of Mount Shasta and, uniting with the Pitt River, forms the principal tributary of the upper Sacramento. Its least flow is about 1,200 cubic feet per second, or about 770,000,000 gallons daily, amply sufficient for all possible needs. The water appears to be good and pure. No reservoir would be necessary, as far as quantity is concerned. If desired to hold in reservoirs for sanitary reasons, suitable sites could doubtless be found in Contra Costa County, if not in the McCloud River basin. This source is considered a feasible one, and it will be discussed in greater detail later in this report."

Further on they say:
"The McCloud River is a branch of the Pitt River, which itself is a tributary of the Sacramento. McCloud River rises on the southern and southeastern slopes of Mount Shasta. It flows in part from glaciers and in part from large springs. The water is clear, cold, and palatable." (P. 22.)

"The city of San Francisco presented unfavorable reports on this source, and it is further unfavorably commented on by Mr. John R. Freeman. The reports are not, however, either comprehensive or complete."

Mr. Freeman dwells upon the possibility of infection of the water. With a large part of the watershed owned in fee by the city and another part within the national forest, proper policing should present no great difficulties, and additional protection will be given by the proposed storage reservoir north of Berkeley. (P. 23).

The estimates prepared for the board by Mr. Wadsworth are as follows (p. 25):

For 260,000,000 gallons daily	\$59,550,300
For 140,000,000 gallons daily	5,400,800
Total	64,951,100

The board adds 10 per cent to the above estimate as a matter of safety, because the surveys are incomplete. That does not mean, however, that it is necessary. It covers possibilities only.

They also show, on page 24, that on July 12, 1912, the board of engineers in charge of the Sacramento River recommended the taking of 800 second-feet of water out of the Sacramento River for an irrigation project, and on December 18, 1912, the Interior Department formally granted the right.

The above statements dispose of the "navigation" question, which worries San Francisco. It is a bugaboo of her own creation.

The cost of the Hetch Hetchy supply is \$77,367,400 (p. 30). Is it good conservation or good common sense to leave 200,000 acres of land permanently arid when such a fine source of supply as the McCloud River is available to San Francisco? What about the needs of hundreds of small farmers in the irrigation districts who are clamoring to be heard and who will be damaged beyond repair if the Raker bill passes?

W. C. LEHANE,
Chairman Water Users' Committee.

MODESTO, CAL., September 23, 1913.

HENRY L. MYERS,
Chairman Senate Public Lands Committee:

We, the undersigned committee, representing the water users of the Modesto irrigation district, 475 of whom have signed a petition to the effect that the lands tributary to the Tuolumne River are able and willing to store the Hetch Hetchy waters and asking and urging that the Senate postpone action on the Raker bill and appoint a commission to investigate and report on our claims. Said petition was signed by 99 per cent of the water users to whom presented. W. C. Le Hane, of this committee, will represent us in person before your committee.

LEVI WINKLEBLECK, Acting Chairman.

HETCH HETCHY FACTS.

The Turlock-Modesto irrigation districts cover 276,000 acres. This land has had water for 10 years, and is about two-thirds developed. The undeveloped land pays the same yearly tax as the developed land and can share equally in the water.

The Waterford irrigation district, lying between the La Grange Dam and the Modesto district, covers 20,000 acres.

The cost of the Hetch Hetchy Dam is figured by Mr. Wadsworth at \$3,155,000. This includes \$168,000 for the land San Francisco has purchased inside and outside Hetch Hetchy and is a high estimate. Luther Wagoner says it can be built for \$2,000,000.

If you add the cost of roads and any other costs that Congress may attach to the bill the total cost will not exceed \$4,000,000 to \$5,000,000.

ACREAGE.

In round numbers 300,000 acres of organized land can issue bonds and pay \$15 to \$20 per acre for this water and never feel it.

Hundreds of farmers in these districts lose \$20 per acre on their hay crop each year because of lack of storage water. The Tuolumne River usually fails early in July.

W. C. LEHANE,
Chairman Committee Water Users.

[From New York Times, July 12, 1913.]

A NATIONAL PARK THREATENED.

Why the city of San Francisco, with plenty of collateral sources of water supply, should present an emergency measure to the special session of Congress whereby it may invade the Yosemite National Park is one of those Dundrearian things that no fellow can find out. The Hetch Hetchy Valley is described by John Muir as a "wonderfully exact counterpart of the great Yosemite." Why should its inspiring cliffs and waterfalls, its groves and flowery, park-like floor, be spoiled by the grabbers of water and power? The public officials of San Francisco are not even the best sort of politicians, as appraisers and appreciators of natural beauties their taste may be called in question.

It is the aggregation of its natural scenic features, the Secretary of the Interior declared to the would-be invaders of the park when a decade ago they presented their first petition, that "makes the Yosemite Park a wonderland, which the Congress of the United States sought by law to preserve for all coming time." Their application was rejected. Now they have obtained from the board of Army engineers a report approving their project as an emergency measure which is based on incomplete, erroneous, and false evidence. The engineers

say in their report that they have merely passed on such data as were presented by the officials of San Francisco, since they had neither time nor money to investigate independently the various projects presented. But San Francisco's officials have withheld from these data the report upon the Mokelumne River and watershed submitted April 24, 1912, in which Engineers Bartel and Manson declare that this system is capable of supplying to the city of San Francisco between 280,000,000 and 430,000,000 gallons daily, the larger amount if certain extinguishable rights are disposed of. Even on their insufficient data the Army engineers report that San Francisco's present water supply can be more than doubled by adding to present near-by sources, and more economically than by going to the Sierras.

The suppressed report, showing that the Mokelumne River is a better and cheaper source than the Hetch Hetchy, says that between 600,000,000 and 700,000,000 gallons of water outside the park may be delivered daily into San Francisco and the adjacent bay region, supplying their growing needs for perhaps a century to come. Representative SCOTT FERRIS, chairman of the Public Lands Committee, has been apprised of the existence of this report. A receipt of the copy is worth waiting for. If the water-power grabbers are put off this session, or two, or three, or many more sessions, before gaining an entrance to the Hetch Hetchy Valley, the dwellers of San Francisco will not go thirsty.

THE HETCH HETCHY STEAM ROLLER.

The Senate of the United States, designed by "the Fathers" to afford a wise check upon presumably impulsive action by the lower House and called "the most august deliberative body in the world," now has a chance to put a spoke in the wheel of the steam roller by which San Francisco's official lobby has heretofore crushed opposition to the Hetch Hetchy bill. An inkling of the tactics of the city's officials is given in the San Francisco Chronicle of September 12, which says: editorially:

"While we all desire and expect to get the Tuolumne water, it is not desirable that the bill shall be rushed through without a full and free discussion of the rights of the States. The water which we shall need for the next few years will have to be got by the development of the Spring Valley property (the present chief supply), and we should make a very poor trade to surrender the rights of the State within its own boundaries in order to get glory for our municipal officials just as an election is coming on."

A prominent advocate of the project has confessed privately that "there are bad things in the bill, but they were put there to get votes." The House debate gives reason for thinking that the measure is a clumsy and probably unworkable attempt to partition the flow of the Hetch Hetchy watershed between the city and such of the San Joaquin Valley farmers as could thus be bribed to forego their opposition.

The local strength behind the city's rush line is not difficult to understand when one realizes that the bill involves contracts amounting to \$120,000,000, with endless opportunities of "honest graft." For months the project has been presented to Congress with persistence and specious misrepresentation. Urged first as a measure of humanity, it has been shown to be a sordid scheme to obtain electric power. Urged as providing the only available source, it is confronted by the conclusive statement of the Board of Army Engineers that "there are several sources of water supply" and that "the determining factor is one of cost." Urged on the ground that it can not injure Hetch Hetchy, because that valley is inaccessible and altogether negligible, it is shown by Mr. Long, the city's attorney and advocate, that 9 miles of roadway would make it accessible, and by Mr. Pinchot's confession that it is "one of the great wonders of the world." Its altogether reputable official sponsors are Secretary Lane, who 10 years ago as attorney of San Francisco became an advocate of the project, and Secretaries Houston and Garrison, who half-heartedly join in approval, besides three bureau heads who have the temerity to agree with their chiefs. In Congress the bill finds strong support in the two Public Lands Committees, composed as they are preponderantly of trans-Mississippians, who have a natural and proper bias in favor of the local use of the forest reserves, and who apply this theory illogically to the natural parks.

The act creating the Yosemite National Park sets forth the importance and duty of reserving these wonders "in their original state," and the world has a moral right to demand that this purpose shall be adhered to. The "beautiful-lake" theory deceives nobody. An artificial lake and dam are not a substitute for the unique beauty of the valley. Senators can not transfer to a committee the grave responsibility that rests upon them. Giving away franchises is not so popular in this country as it once was.

If the Senate does not protect the higher interests of the people in the national parks the President will be looked to confidently to do so. In a similar situation President Cleveland knew how to deal with those who sought to force his hand. A fortnight before his final retirement from the White House he celebrated Washington's Birthday by a proclamation establishing a number of reserves recommended by the Sargent Forest Commission—an action in which he took the greatest pride. There was much opposition on the part of northwestern Senators, and it was reported to Mr. Cleveland that an amendment was to be made to the sundry civil bill nullifying his proclamation. When he heard of this the President rose in indignant wrath and, bringing down his fist on the table, said: "Nullify it, will they? Then I will veto the whole damned sundry civil bill." And the amendment was not made. Mr. Cleveland's downrightness regarding this important matter was equalled by his foresight. He instinctively took the side of the people. That the American press has done the same is confirmed by the statements of Senators that they have hundreds of letters of protest. They and the President should receive hundreds more.

Resolution 2, adopted at the annual meeting of the San Joaquin Valley Water Problem Association, representing the eight counties of the San Joaquin Valley, at Merced, Cal., November 17, 1913.

Whereas the control of floods and the irrigation of arid lands in the San Joaquin and Sacramento Valleys constitute in reality but two phases of one problem; and

Whereas in the San Joaquin Valley there is a deficiency in the water supply and, even with the complete conservation of all the waters of the valley, there will be an insufficient supply of water with which to irrigate efficiently all the irrigable lands in said valley; and

Whereas in the Sacramento Valley there is an excess of water and with its proper conservation all of the land in the valley can be irrigated, the navigability of the Sacramento River remain unimpaired and a supply of water be left for diversion to other localities; and

Whereas the city of San Francisco is attempting to divert water from the San Joaquin Valley and take it to San Francisco for municipal purposes; and

Whereas we believe that every unit in the development of water control in the Sacramento and San Joaquin Valleys should be constructed as a part of a comprehensive whole, designed ultimately to accomplish the full development of both valleys and the conservation to the utmost of their resources: Therefore be it

Resolved, That we deprecate this attempt of San Francisco to violate what we believe to be one of the fundamental principles of the conservation of the resources of the interior valleys of California, because it is entirely unnecessary and because great injury will result to water users if water is so diverted from the San Joaquin Valley, and, further, because the Sacramento Valley offers an ample source of water supply for San Francisco's need without injury to anyone.

Resolved further, That we hereby declare it to be the sentiment of this association that no water should be diverted from the San Joaquin Valley for any purpose, but that all its waters should be retained in the valley for the irrigation of the arid lands therein, and that in every attempt at water control the two valleys should be considered as a whole, so that the development of one may be supplemental to the development of the other.

We therefore instruct our secretary to forward a copy of these resolutions to each Member of Congress.

A PRIMER OF FACTS—THE MODESTO AND TURLOCK IRRIGATION DISTRICTS.

First. Organized under the Wright law, 1887; the first in California.

Second. Area, 258,000 acres. Now irrigated, about 150,000 acres.

Third. Source of water, Tuolumne River, diverted at the La Grange Dam.

Fourth. Amount of water filed on, 9,500 second-feet. San Francisco generously proposes to allow the districts 2,350 second-feet.

Fifth. Total cost of irrigation works and upkeep to date, \$4,500,000.

Sixth. Estimated area outside the districts which could be irrigated from the Tuolumne River, about 200,000 acres.

Seventh. Development resulting from irrigation:

Increase of population in Stanislaus County in the last decade, 135.8 per cent, which is only second to Los Angeles County.

Shipments of agricultural products, \$3,000,000; dairy products, \$3,000,000; butter, 1912, 6,894,225 pounds, leading all the California counties. For the past year the butter product was 8,292,100 pounds, 58 per cent more than was ever produced in any other California County. This development is attributable to irrigation alone.

Eighth. Our present prosperity would be threatened and all further development of the districts and adjoining lands would be prevented by taking the so-called "flood waters" to San Francisco.

Ninth. The proposed measure does not protect the districts because:

(a) It cuts down our water to one-fourth of our legal appropriation, while San Francisco adds 50,000 acres to our area without providing any additional water therefor, and prohibits the development of any lands outside the districts (of which we have some 200,000 acres) contiguous to the Tuolumne River.

(b) It allows the districts to buy power only "when not wanted for pumping by the grantee."

(c) It allows the districts to buy stored water only under onerous conditions.

(d) It may establish, if the "restrictions" are removed (as now threatened by San Francisco), another power monopoly in the valley, by which the people would be not served but exploited.

Tenth. The undisputed fact that the Sacramento Valley has six times the water that the San Joaquin Valley has, and equally as good, is sufficient to show that San Francisco should go to the northern valley for her supply.

Eleventh. Finally, we ask that the "waters of the San Joaquin Valley be conserved for the land of the San Joaquin Valley."

"BEWARE OF THE MAN WHO SNEERS AT SENTIMENT."

"The board of Army engineers is of the opinion that there are several sources of water supply that could be obtained and used by the city of San Francisco and adjacent communities to supplement the near-by supplies as the necessity develops. From any one of these sources the water is sufficient in quantity and is, or can be made, suitable in quality. While the engineering difficulties are not insurmountable, the determining factor is one of cost."

THE HETCH HETCHY "GRAB"—THE PRESS OVERWHELMINGLY AGAINST IT—AN INCOMPLETE LIST.

Outside of San Francisco, these newspapers and other organs of public opinion are on record against the plan to destroy the great Hetch Hetchy Valley by flooding it and to deny the public the free access it now has to the northern half of the wonderful Yosemite National Park, it being confessed that the city can get its supply elsewhere "by paying for it":

Boston Christian Science Monitor, Boston Transcript, Boston Post, Boston Record, Springfield Republican, Springfield Union, Providence Journal, Providence Tribune, Hartford Times, Worcester Gazette, New Bedford Mercury, New Bedford Standard, Bangor Commercial, Fall River News, New York Times, New York Tribune, New York World, New York Call, New York Telegraph, New York Evening Post, Brooklyn Standard Union, Albany Journal, Utica Observer, Utica Gazette, Rochester Times, Rochester Union Advertiser, Rochester Chronicle, Poughkeepsie Eagle, Poughkeepsie Enterprise, Jersey City Journal, Newark Morning Star, Amsterdam (N. Y.) Record, Philadelphia Ledger, Philadelphia Record, Philadelphia Telegraph, Scranton Times, Cleveland Plain Dealer, Macon (Ga.) Telegraph, Jacksonville (Fla.) Times, Nashville Democrat, Memphis Appeal, Louisville Courier-Journal, Cincinnati Journal and Messenger, Akron Journal, Fort Wayne News, Indianapolis News, Chicago Inter Ocean, Milwaukee Press, Milwaukee Journal, Milwaukee News, Sioux City Tribune, Minneapolis Tribune, Lincoln (Nebr.) Journal, Denver Republican, Denver Rocky Mountain News, Salt Lake Republican, Seattle Times, Seattle Post-Intelligencer, Tacoma Daily News, Portland Oregonian, Oregon Journal, San Francisco Wasp, San Francisco News Letter, Pasadena News, World's Work, The Independent, The Outlook, Out West Magazine (Cal.), The Century, The Flint (Mich.) Journal, and many others.

ORGANIZATIONS ON RECORD AGAINST IT.

Sierra Club, of San Francisco; Society for the Preservation of National Parks; American Civic Association; American Scenic and Historic Preservation Society; American Alpine Club; Mazamas, of Port-

land, Oreg.; Mountaineers of Seattle; Chicago Geographical Society; New York Zoological Society; and others.

Former United States Senator George F. Edmunds writes from Pasadena of "the despoilment of the Hetch Hetchy Valley in the interest of the commercialism of San Francisco water men, etc., without any at all adequate reason of real public interest and necessity. I do hope that the sober sense of Congress will refuse to authorize the accomplishment of this scheme."

N. B.—Editors are respectfully requested to send the names of other papers opposed to the scheme (with articles) to R. U. Johnson, 327 Lexington Avenue, New York.

BEFORE THE UNITED STATES SENATE—IN RE HETCH HETCHY GRANT—SHOULD THE CITY OF SAN FRANCISCO BE GIVEN THIS GRANT, NOTWITHSTANDING THE FACT THAT IT HAS AN ADEQUATE SUPPLY?

[Excerpts from a report to the honorable the Secretary of the Interior and the Advisory Board of Engineers of the United States Army by the Spring Valley Water Co., San Francisco, Cal., Oct. 31, 1912.]

(By F. C. Herrmann, chief engineer Spring Valley Water Co., Oct. 1, 1912.)

THERE WILL BE ENOUGH WATER FOR SAN FRANCISCO UNTIL BEGINNING OF NEXT CENTURY.

The purpose of this report is to present an estimate of the safe dependable amount of water that may be delivered daily to the people of San Francisco by the complete and intelligent development of the present resources of the Spring Valley Water Co., and to determine at what time in the remote future additional water supply must be obtained elsewhere.

These resources extend over large areas adjacent to the region of San Francisco Bay, and although the most important of these will be operated in harmony, each assisting the other to the best advantage, they are divided into the following component parts for the purpose of analysis in this report:

Peninsula system:	Square miles.
Bay slope, nearly complete	35
Coast stream, reserved for future supply	65
Alameda system, partially developed	620
Coyote system, reserved for future supply	115
Alviso-Ravenswood:	
Wells, partially developed	Subterranean
Lake Merced, nearly complete	Subterranean

The Spring Valley Water Co. has secured water resources for the people of San Francisco that when completely developed will safely produce year in and year out 210,000,000 gallons daily, or over five and one-half times the present needs of the city. In addition to this, other sources have been secured, which may be depended upon to supply 42,000,000 gallons daily for use within the proposed metropolitan district, making a grand total of 252,000,000 gallons daily, as follows:

For the city of San Francisco (million gallons daily).

Peninsula system:	
Crystal Springs, San Andreas, and Pilarcitos Reservoirs, as at present developed	19.5
Additions from coast streams and West Union Creek	51.2
Lake Merced	3.5
Total	74.20
Alameda system:	
Calaveras	60.14
San Antonio	8.92
Sunol gravels	11.36
Arroyo Valle and Livermore gravels	55.38
Total	135.80
Additional for metropolitan district:	
Coyote system	21.00
Alviso and Ravenswood	21.00
Total	42.00
Grand total	252.00

Making the liberal allowance of 100 gallons per day per inhabitant, the 210,000,000 gallons daily available for the city of San Francisco is sufficient to serve a population of over 2,000,000 people. The average of the curves of future population made within recent years by Hermann Schuessler, Prof. C. D. Marx, C. E. Grunsky, E. H. Hopson, and Marsden Manson indicates that this figure will be reached about the beginning of the next century.

One great factor in the value of these sources of supply is the large aggregate storage located at the door of the city. The surface storages are enumerated as follows:

	M. G. ultimate.
Peninsula system, 15 miles from San Francisco	102,500
Alameda system, 35 miles from San Francisco	80,504
Coyote system, 63 miles from San Francisco	9,100

Total surface storage 192,104
If no rain whatever fell for over 14 years, this storage would be sufficient to care for the present needs of the city during that time.

Extensive underground storage, which is the source of subterranean waters at Pleasanton, Sunol, Alviso, and Ravenswood, is not included in the above, and in the aggregate furnishes storage in excess of the enormous storage of the surface reservoirs.

MR. MULHOLLAND'S ESTIMATE OF THE WORK OF F. C. HERRMANN.

[P. 232b—Same report.]

[By Wm. Mulholland, chief engineer Los Angeles Aqueduct, and J. B. Lippincott, assistant chief engineer of the Los Angeles Aqueduct.]

There has been presented to the Board of Army Engineers, as requested by the Secretary of the Interior, a number of reports dealing with the resources of the Spring Valley Water Co., of which one report by Mr. F. C. Herrmann, chief engineer of the Spring Valley Water Co., fully discusses the available water supply owned and controlled by the company.

THOROUGH STUDIES MADE OF ALAMEDA SYSTEM.

Mr. Herrmann was born and raised at San Jose and received his engineering training at Berkeley, all practically in the district under discussion. His professional work has included official water-supply

investigations for the Federal Government, and responsible charge of extensive hydraulic works. He is surrounded by a corps of engineers, some of whom have spent years of study and observation of the Spring Valley system. To assist this regular engineering organization, he has called in consultation Dr. J. C. Banner, vice president of Stanford University, and Dr. A. C. Lawson, professor of geology of the University of California, both eminent geologists, especially familiar with the bay regions through years of geological study thereof. He also has had in consultation the engineering staff of J. G. White & Co., Mr. George G. Anderson, an eminent engineer of Denver; Capt. A. O. Powell, chief engineer of Seattle; and Gen. Hiram M. Chittenden, retired, of the Corps of Engineers of the United States Army. Gen. Chittenden has specialized for years on the hydrography of arid America. All of these gentlemen, together with ourselves, have gone over the districts under discussion in the reports in detail with Mr. Herrmann, and have conferred with him both in the field and in the office. The deliberations have been extensive, and a mass of data has been compiled by Mr. Herrmann and his assistants, which is presented in their reports. It therefore follows that the conclusions reached by Mr. Herrmann are worthy of respectful consideration, and should be given weight in reaching final judgment.

Mr. Herrmann has presented a report which is a clear and concise review of much detailed matter contained in several appendices and many maps and diagrams, which are referred to therein. It is not in the nature of a report produced under high pressure in the short period of two or three months' time by one who is a nonresident and but briefly familiar with Pacific-coast conditions and the ordinary sources of our domestic water supplies, covering one-third of the second largest State in the Union, involving estimates of construction cost running into staggering figures and unprecedented plans, but is rather the finding of men who have made good in their life work in this particular locality.

On page 82 of same report the following:

SAN JOAQUIN RIVER.

The San Joaquin River is one of the largest rivers in California. It serves a catchment area of 6,000 square miles, carrying to the San Francisco Bay all the waste waters from that portion of the Sierra Nevada Mountains lying south of the Calaveras River.

ALWAYS AVAILABLE FOR DISTANT FUTURE.

It lies about 20 miles east of the Livermore Valley, and at such time in the remote future, when the needs of San Francisco shall have become equal to the safe dependable yield of the resources of the Spring Valley Water Co., an almost unlimited supply of water may be readily obtained from this source.

By pumping and conveying only 20 miles, this water may be delivered into the Livermore Valley, whence it may be filtered by the unlimited natural filtration gravels and conveyed to the city of San Francisco.

CONSUMPTION OF WATER.

The average daily consumption of water in San Francisco for the year 1911, as indicated by the records of the Spring Valley Water Co., was 37.7 million gallons daily.

During the last few years the consumption has increased at the average rate of about 1,500,000 gallons daily per annum. For many years the future requirements for San Francisco have been the subject of careful analysis and thought by all investigators of the water supply of this city, and many elaborate compilations and deductions have been made. These results are based upon estimates of increased population and of industrial activity, and at best can be only approximations.

In estimates of the future consumption of water, it has been customary to allow 100 gallons per capita per day, though in his report on "New York's water supply" Mr. Freeman estimated that with proper inspection and meters on all taps, from 42 to 67 gallons per capita per day would be ample. Similarly, in 1904, Mr. Dexter Brackett, chief engineer of the metropolitan water district of Boston, in his report on "Measurement, consumption, and waste of water," said that the quantity actually required for all uses in the Boston district was 55½ gallons per inhabitant per day, and that all use above that amount was waste.

We believe that an allowance of 100 gallons per capita per day is a liberal one. At this rate of consumption the 210 million gallons daily of the Spring Valley Water Co. available for the city under complete development will serve a population of 2,100,000 people.

PLENTY OF WATER FOR METROPOLITAN DISTRICT.

If we take in addition to this amount that additional quantity available for the metropolitan district from Spring Valley Water Co. sources of 42 million gallons daily, making a total of 252 million gallons daily, and apply it at the rate of 100 gallons per capita per day to Mr. Freeman's estimate of the future population of the metropolitan district, as given on page 76 of his report above referred to, we find that water available from the Spring Valley Water Co. resources alone will serve this metropolitan district until the year 1975.

Further, if to the ultimate development of the Spring Valley Water Co. we add that amount of water available from other sources, serving, or available to serve, other communities within this metropolitan district, as indicated by reports for the city of San Francisco, it will make a grand total of about 350 million gallons daily, which, when applied to Mr. J. R. Freeman's population curve at the rate of 100 gallons per capita per day, will supply this metropolitan area until about the year 2000.

[Excerpts from a report by Hermann Schussler, consulting engineer Spring Valley Water Co.]

THE SAN JOAQUIN RIVER AS A FUTURE ADDITION.

This latter source which I investigated from time to time since 1877 and early came to the conclusion that by using the Alameda system with its unparalleled gravel deposits acting as natural filter systems, and with its compact artesian and reservoir system lying just to the west of the San Joaquin Valley, through which latter from four to six months in spring and summer of each year a vast amount of water passes on its way from the melting snows of the Sierras to the sea, the natural next step of a successful water supply having the present Spring Valley system as a basis would be to make the flood waters of the San Joaquin River tributary to the filter and reservoir systems of the Alameda Creek region, and to the Crystal Springs and San Andreas reservoirs, on the peninsula.

Owing to the subterranean natural filtering system of the company in both Livermore and Sunol Valleys, and owing to the facility with which the waters from the San Joaquin could either be passed through the natural filtering process in Livermore and Sunol Valleys direct, or passed partly through the filtration and artesian process of the Livermore Valley and partly (with or without the waters from Arroyo Valle Reservoir) into the San Antonio Reservoir, and from there to and through the company's natural filtering process in operation in

Sunol Valley, this proposed addition of the San Joaquin during its freshest stage offered to the owners of the Spring Valley Water Co.'s properties on the Alameda system and on the peninsula a most effective, rapid, and economical addition to its work with a supply capacity of almost unlimited extent.

Before proceeding with a description of the proposed method of developing the San Joaquin branch of the system, and also before touching on the proposed preliminary development of the Alameda system and its ultimate development in connection with the San Joaquin River as a feeder, I shall quote from the records of the United States Senate Land Committee, before which, on February 12, 1909, I briefly referred to the San Joaquin River as the nearest additional large source of water supply to be connected with the present and proposed works of the Spring Valley Water Co.

I shall here quote from page 70 et seq. of the official record of this meeting in Washington in 1909:

"Hetch Hetchy reservoir site. Hearing before the Committee on Public Lands, United States Senate, on the joint resolution (S. J. Res. 123) to allow the city and county of San Francisco to exchange lands for reservoir sites in Lake Eleanor and Hetch Hetchy Valley, in Yosemite National Park, and for other purposes.

"Question by Senator SMOOT. Is the Sacramento River feasible?

"Answer by Mr. SCHUSSLER. Yes; but it would be very expensive. You would have to go a long way. But there is one source probably as good as any, except that the quality has been doubted, and that is the San Joaquin River. Now, the San Joaquin River lies right to the east of part of our headwaters on the Alameda Creek system. I discouraged our directors years ago not to make any investment whatsoever in the Sierra Nevada, because it was too expensive, and because we could get all the water for many decades nearer home; but I have said to them: If you want to increase your water supply over and above the capacity, that we can develop the works, which with the coast streams on the Pacific coast is somewhere in the neighborhood of 135,000,000 gallons a day—

"Senator SMOOT. That is the San Joaquin?

"Senator FULTON. No; he says that they could develop from what they have.

"Mr. SCHUSSLER. I have told them that if they wanted to go far beyond that, then they could go to the San Joaquin River, across the range not far from our easterly boundary, and do just the same that the city proposes to do—pump the water over Livermore Pass and run it onto the company's filter bed that we have, 1,300 acres of deep gravel beds, where we now filter our water. (The Sunol filter beds.)

"Senator SMOOT. Out of the San Joaquin, how much could you develop?

"Mr. SCHUSSLER. One hundred and fifty million to two hundred million gallons a day.

"Senator NEWLANDS. Would that be less expensive?

"Mr. SCHUSSLER. Very much less; but nobody could handle that comfortably unless they had the big filtration works that we have.

"Senator NEWLANDS. Are those filtration works natural or artificial?

"Mr. SCHUSSLER. Natural filtration works. We simply ran a tunnel underneath this prehistoric lake bottom, which is filled with gravel, and which tunnel we have lined with concrete, and put in a good many thousand 14-inch galvanized pipes, and through this tunnel we draw now (early in 1909) 14,000,000 gallons a day, which we can increase easily to 80,000,000 or 90,000,000 gallons a day.

"Senator NEWLANDS. And the filter bed would be adequate to all requirements for the future?

"Mr. SCHUSSLER. We can filter 150,000,000 to 200,000,000 gallons daily."

As will be seen from the above quotations, when on the subject of filtering the San Joaquin water I alluded solely to the proposed enlargement of the filtering capacity of the present Sunol filter beds, in order not to draw undue attention to the proposed extensive additional use of the San Joaquin water in the gravel beds and sinks of the Arroyo Mocho and Arroyo Valle, in Livermore Valley, which sinks are tributary to the company's artesian belt near Pleasanton, in the westerly portion of Livermore Valley, and especially to the landholdings on and over this artesian belt, to which the Spring Valley Water Co., since the above-mentioned meeting of the Senate Land Committee, on February 12, 1909, has added many thousands of acres of artesian and other water-bearing land.

[Excerpts from a report on the water-supply system of the Spring Valley Water Co., San Francisco, Cal.]

(By H. M. Chittenden, brigadier general, U. S. A., retired, member American Society of Civil Engineers, and A. O. Powell, member American Society of Civil Engineers.)

San Francisco's supply is already, in the strictest sense, a mountain supply, but it comes from the Coast Range instead of the Sierra. Most of the topography is too rough and precipitous for agricultural use and a large part is densely timbered. Considerable tracts still belong to the Government. A vast majority of the citizens of San Francisco undoubtedly have no conception of the extremely rugged character of most of these watersheds nor of their adaptability to the purposes of gathering water.

In the matter of scenic attraction, let those who are entranced by the beautiful pictures of the future Hetch Hetchy as drawn in Mr. Freeman's report—and they are not overdone—make an excursion through the Spring Valley properties, particularly in the Pliacitos Valley, and they will find an exquisite beauty of scenery such as very few localities enjoy. The future development of the system is full of magnificent possibilities in this respect—possibilities that would be enjoyed by a thousand to every one who might visit the Sierra.

Because of the general roughness of the country, and particularly of the ground on which the city of San Francisco is located, the cost of delivering water under proper pressure to all portions is necessarily much greater than where the water can be pumped from an inexhaustible near-by source under practically uniform heads for the whole city, as in Chicago and Buffalo. The serious feature of this Sierra proposition is the large addition which it will make to a cost of service already unavoidably high.

The Spring Valley development involves no such increase. It can be taken up gradually, in strict conformity to growing needs. But the initial cost of the Sierra project will be so great that the interest alone will suffice for the permanent development of the Spring Valley system. These are matters which the rate payer and the taxpayer should candidly consider, whatever may be their desires under the enthusiasm of the moment.

SUMMARY OF CONCLUSIONS.

There is no substantial reason to believe that the consumption of water in San Francisco County will exceed 92,000,000 gallons daily by 1950, or 235,000,000 gallons daily for the five bay counties, apart from the supply from private wells.

The three main divisions of the Spring Valley system—the peninsula, the Alameda, and the coast streams—by careful development into a single unified system, are capable of a dependable supply of over 200,000,000 gallons daily.

By resort to the company's other sources and to the San Joaquin River the supply may be indefinitely increased.

So far as quantity is concerned there is no present necessity for a resort to the Sierra, and will not be for an indefinite period to come.

If there were no Sierra, San Francisco could still face the problem of a future water supply with perfect equanimity.

As to quality, the Sierra supply is softer, but hygienically no purer and is less palatable as drinking water than the Spring Valley supply. The extra cost of the Hetch Hetchy system will virtually be the price paid for a gain in the quality of softness.

Whatever source is ultimately adopted, the great reservoir group proposed by the Spring Valley Water Co. should be made the mainstay of the system as a certain insurance against disaster.

The question discussed in the foregoing report is not that of the sufficiency or desirability of the Hetch Hetchy supply in itself, but that of the present necessity of such an outside vicinity. The result of the investigation has been to show that such a necessity does not now, and possibly may never, exist; that the supply would be in the nature of a luxury rather than a necessity, and a very costly luxury at that.

If this finding is correct it involves a question of public policy of fundamental importance. The backbone of California's greatness is the agricultural development of her great central basin—a development impossible without water. Its claim upon the mountain supply is a preeminent one. Metropolitan needs are perhaps supreme, and if San Francisco had no other supply, the claims of the irrigable lands of the San Joaquin Valley, even those which already have priorities of flow, as the Turlock and Modesto districts, might have to step aside; but if it be a fact that the bay cities have a supply near at hand in the Coast Range that is amply capable of serving their needs, and if there be not enough in the Sierra for both, then it surely would be wrong to deprive the valleys of the only source of supply which is available to them. The rights of the existing irrigation districts are not alone to be considered, but the future demands of the San Joaquin Valley on both sides of the river.

[Excerpt from the report of the president of the Spring Valley Water Co., San Francisco, Cal., for the year ending Dec. 31, 1908.]

Since October, 1865, Mr. Hermann Schussler has devoted his able brain and his untiring energy to the creation of a water supply for San Francisco. Over 40 years he has spent in economically securing the best reservoir sites, the best sources of supply, riparian rights, watersheds, rights of way, and everything that could suggest itself to a most able engineer. It does not require an expert on value to realize that property thus acquired must have enormously increased in value. The actual expenditures for holdings and plant during the past 40 years amount to over \$28,000,000. January 30, 1903, City Engineer Grunsky estimated its value at \$28,024,389; since then capital expenditures amounting to \$2,589,167 have been made. Large elements of value were eliminated by Mr. Grunsky, and since his original estimate of value was made in 1901, there has been a very great increase in basic and other values. The value of the property is estimated at from \$48,000,000 to \$52,000,000.

The policy of the management that prevailed some years ago of keeping the resources of the company from public knowledge is in some degree responsible for existing conditions. That policy exists no longer. Representatives of civic associations, representatives of the public, and all those who desire will be afforded opportunity to learn for themselves all matters pertaining to the water supply of San Francisco. When knowledge takes the place of prejudice and misrepresentation, we have full confidence that the existing water supply of San Francisco will become a source of pride to the community, which will then pay the tribute to Mr. Schussler that his work deserves.

The plant is now developed to supply San Francisco with 35,000,000 gallons per day, and this delivery can be quickly increased to more than 40,000,000 gallons per day. The water division can now supply more than 50,000,000 gallons per day, and the resources now owned by the company can supply a demand of a daily delivery of more than 125,000,000 gallons. On March 1 of this year a supply of water sufficient to last the city for four years was available without another drop of rain during that period.

AVAILABLE SOURCES OF WATER SUPPLY FOR SAN FRANCISCO AND THE BAY CITIES OTHER THAN THE TUOLUMNE RIVER AND THE HETCH HETCHY VALLEY.

A statement of facts, supported by official records published by the United States Government, the State of California, and engineers of prominence, against the granting of a permit to the city of San Francisco to carry away the flood waters of the Tuolumne River and the use of the Hetch Hetchy Valley.

It is the purpose of the Water Users' Association of the Modesto and Turlock Irrigation Districts to show in this paper that there are sources of water supply for the city of San Francisco and the bay cities other than the Tuolumne River and the proposed storage in the Hetch Hetchy Valley; that one at least of these sources, namely, the McCloud River, offers all of the advantages which it is claimed are possible by the Hetch Hetchy supply, not excepting the cost of development; that there can be no valid objection from any source to the use of this alternative supply; that the lands adjacent to the Tuolumne River, which must receive water from that river and from no other source to enable the development of the highest economic duty of the land in accordance with the theory of true conservation held by the United States Government, can be so developed, rather than being condemned to hopeless aridity by the proposed depletion of the water supply by the city of San Francisco.

It is, in other words, vital to the natural resources which depend upon the Tuolumne River for their irrigation water that the Raker bill, now before the Senate of the United States for passage, granting to the city of San Francisco the right to store the flood waters in the Hetch Hetchy Valley and maintaining a draft of 400,000,000 gallons daily, be defeated. No adequate investigation has been made by the Govern-

ment of these lands, and it would be the desire of this association that such investigation be systematically and thoroughly made before definite action be taken in the Senate, in order to ascertain the total economic waste which must result by permitting the city of San Francisco to obtain its water supply from the Hetch Hetchy Valley.

The Newlands bill calls for an annual appropriation for 10 years of \$5,000,000 for the purpose of lessening the flood damage to lands, which, if protected from flood, would become highly productive. In other words, it is for the purpose of reclaiming land and adding to the available arable land, developing natural resources.

While the Government is, on the one hand, conserving and adding to land for cultivation, increasing the productive wealth and prosperity of the country by reclaiming desert lands at immense cost, a bill is proposed, and has already passed the House of Representatives, which shall deprive hundreds of thousands of acres of high-grade but semi-arid land of the water which would come to it by virtue of its situation, thereby maintaining its condition of uselessness by giving the water away.

A large part of these lands, which can not be watered if the water is given to San Francisco, are suitable for high-grade orange culture. (Report of Symes, Means & Chandler, agricultural engineers, San Francisco, Cal.) The importance of this industry may be appreciated when it is known that 40 per cent of all of the oranges raised for commercial consumption in the world are grown in California. The entire acreage in oranges in California is about 200,000 acres. Here, then, it is proposed in the Raker bill to discard orange-growing land in area almost equal to the entire cultivated acreage in California.

HIGHEST USE OF WATER.

Whether the city of San Francisco shall have better right than the lands which must in the future use this water or go without is beside the question. The terms of the Raker bill admit that the present irrigation districts have a prior claim to that of any city. This should apply equally well to all lands depending upon the Tuolumne, when it is an unquestionably proven fact that the McCloud River, a tributary to the Pit and eventually the Sacramento River, offers an abundant supply without the necessity of storage, a quality equal or better than that from the upper reaches of the Tuolumne, at a less cost for installation and maintenance, and with no possibility of robbing any section of the Sacramento Valley of water which may now or at any time be needed for irrigation.

The real objection of giving away the flood water of the Tuolumne and the Hetch Hetchy storage to San Francisco is the broad principle of true conservation.

A comparative description of the various water sources is given in an independent review of the San Francisco water situation by Rudolph W. Van Norden, a consulting engineer of San Francisco, who is thoroughly familiar with water-supply conditions in California. This article was published in the Journal of Electricity, Power, and Gas, December 28, 1912. In it are described the various plans for the Hetch Hetchy development as outlined by Grunsky, Mapson, and Freeman, together with description and costs of the various alternative sources which have been proposed. An excerpt from this article, which follows, states clearly the availability of the McCloud River, with costs of development arrived at by the writer himself:

THE MC'CLOUD RIVER SOURCE.

The McCloud has its source largely in the snowy slopes on the eastern and southeastern side of Mount Shasta. The watershed covers an area of about 675 square miles and is included in the Shasta National Forest Reserve. About 70 per cent of this area is patented land, and much of the territory is heavily timbered.

The nature of the ground surface is porous, due to volcanic formations, and the run-off passes into the ground, only to emerge in many beautiful springs to form by their cascades the McCloud River. The purity and quality of this water are described by Mr. Freeman in his notes in appendix 13 of his report. Probably in no source in California could the water be purer or less liable to contamination.

In the presentation of this project (by the San Francisco engineers) another "straw man"—this time wet straw—seems to have been set up. But the weakness of the presentation seems to have drawn the attention of the honorable Secretary to its coyly hidden possibilities. The objections which have been offered were the great distance, the possibility of contamination from lumber camps, the greater cost, the taking of water necessary for irrigation, and the lack of power-development possibility on the line of conduit.

The proponents of this project made a survey during 1911 from the point of diversion to Suisun, or practically the point where the conduit would follow the Hazen plan of filtration of Sacramento River water to San Francisco. This survey contemplated a pressure pipe line and gravity conduit down the Sacramento Valley and the development of enough power on the line of aqueduct to pump the water into Oakland and San Francisco. This survey was probably as accurate and thorough as any survey made by the city. When the Freeman plan for bringing Hetch Hetchy water was developed, doing away with the need of pumping, a similar plan was conceived by the McCloud proponents, and it was discovered that by constructing a high-line canal water could be conveyed by gravity in open-cut covered aqueduct, similar in all respects with the Los Angeles aqueduct, and thus carried to the bay cities, the only pressure lines being under the Straits of Carquinez and the Bay of San Francisco. This new line, while there has not been time for a complete survey, has had a careful reconnaissance, and the data available are probably as accurate as that used by the city in developing the new plan from Hetch Hetchy, which does not follow the original surveys.

This line, after crossing the Pit River, passes through a tunnel and crosses the Sacramento River above Redding. It then follows the contour of the west slope of the Sacramento Valley, mostly in gravity concrete lined and covered conduit, to a point west of Williams. From here a tunnel carries it to the Capay Valley, and after following this valley for several miles another tunnel takes the conduit to the Berryessa Valley, thence by another tunnel to the eastern slope of the Napa Valley, thence to Carquinez Straits. Crossing the straits in a pressure tunnel, the hydraulic grade is again assumed, and the conduit terminates in the proposed Pinole and San Pablo reservoirs. From these a pressure tunnel and pipes carry the water to Oakland and San Francisco. The low cost of this project in comparison with all of the others, including the Hetch Hetchy, is due to the large amount of gravity-flow canal and the relatively smaller amount of tunnel and pressure pipe.

The length of this aqueduct from the diversion to San Francisco, including the supply for the east bay cities, is about 216 miles, or 16 miles longer than the Hetch Hetchy aqueduct for the same purpose. In

casual reference to this project people have figured the railroad distance from San Francisco to Pitt, which figures to 280 miles, which has probably given rise to the idea of great distance. The proponents of the project either own or have options on 98 per cent of the patented lands, which include the lumber camps. The acquisition of this area by the city gives immediate control to habitation and sanitation. The remaining 2 per cent consists of a game preserve and the summer homes of a few persons, two of whom at least are most respected citizens of the metropolitan water district.

The cost of this project, including all rights and lands, has been estimated by the writer on the unit cost basis adopted in the Freeman report, and is, for a full development of 400,000,000 gallons delivered to San Francisco and east bay cities, \$54,624,560, which is \$20,000,000 less than the summary of costs given in the Freeman report for the Hetch Hetchy system fully developed. A preliminary development for one-half of the water delivery, or 200,000,000 gallons, would cost about \$45,000,000, or very nearly the figure recently given out by Mr. Freeman as for a like amount from Hetch Hetchy.

This project has the disadvantage of a bay crossing, but a service line down the east side could readily be made to connect with the Spring Valley's lines. This would, of course, apply to all of the more northerly group of projects.

The United States Reclamation Service has calculated that the entire available supply from rivers emptying into the San Joaquin Valley would be sufficient to cover all of the irrigable land of that valley about 20 inches in depth, while the same calculation concerning the Sacramento Valley would cover the irrigable land to a depth of about 9 feet (Fifth Annual Report United States Reclamation Service). The rivers of the east side of the Sacramento Valley will probably supply for all time all the water necessary to irrigate land east of the Sacramento River. Those of the west side will partially irrigate the irrigable lands of the west side. The use of 400,000,000 gallons by the city would probably decrease the volume of the Sacramento River at the head of irrigation not more than 10 per cent during the low-water period. This still leaves enough water at the lowest period to irrigate all lands in the valley, leaving a large surplus in the river.

In the development of this project the municipal water district might by some manner be extended to take in Red Bluff, Sacramento, all of the west side towns, Santa Rosa, Napa, Vallejo, etc., and deliver water to all of these towns under heavy pressure.

So far as the city supply is concerned no storage is necessary, as the minimum flow of the McCloud is about twice the amount which it is proposed to use. No power can be developed on the line of the aqueduct, but within the watershed about 120,000 horsepower may be developed immediately.

SACRAMENTO RIVER FILTRATION PROJECT.

This project, which has been ably reported by Mr. Allan Hazen and forms Appendix 12 in the Freeman report, contemplates pumping from the Sacramento River near Rio Vista with an auxiliary pumping station at Antioch, carrying the conduit through the Contra Costa Hills, through Oakland, thence across the bay to San Francisco. An alternative line passes southward and around the head of the bay to avoid the crossing. The project includes a very complete modern filtering plant.

The necessity of going so far for the water is to insure the procuring of fresh water, the fresh-water zone having a variation of about 35 miles. This conduit from the pumps to San Francisco would have a length of 51 miles. It is proposed to develop at first with a nominal capacity of 75,000,000 gallons daily. The cost of this installation is summed up for 75,000,000 gallons, \$24,000,000; for 120,000,000 gallons \$42,000,000; and for 180,000,000 gallons, \$60,000,000. These figures are not made on the basis of the Hetch Hetchy figures and may be higher in comparison. From them is, however, seen that for the full supply necessary any of the gravity systems would be cheaper. Further than this it is doubtful, as a whole, if the people would ever accept a filtered supply if a mountain source could be had. It is interesting to note in this connection that many experts favor this plan and claim that the water will be most satisfactory. In the recent hearing Dr. Rupert Blue, than whom no higher sanitary authority probably lives, is reported to have made the statement that he would rather have Sacramento River water filtered than Hetch Hetchy unfiltered.

By adopting the alternative plan of a lower gravity line, skirting the western edge of the Sacramento Valley, and pumping water into San Francisco by power generated along the line of canal, the costs given in the above article, on the McCloud supply, would be very materially lowered, due to the elimination of many tunnels necessary in the high line.

There have been many misleading and elusive statements on these costs by the San Francisco-Hetch Hetchy interests, for the purpose of making the Hetch Hetchy costs appear smaller than they really are, to those who are not familiar with the subject. To illustrate just where those most active in the San Francisco fight stand on this cost matter the city engineer of San Francisco, Mr. M. M. O'Shaughnessy, recently made this statement, that he had raised the figure of \$38,000,000, given by Mr. Freeman in his report of 1912 for the initial delivery of 50,000,000 gallons daily into San Francisco, to \$65,000,000; while the figures for the completed project, to deliver 400,000,000 gallons daily, he had raised from \$77,000,000 to \$103,000,000. Mr. Marsden Manson, former city engineer for San Francisco, stated, in an address before the Commonwealth Club of that city, that under the terms of the Raker bill "the city of San Francisco could not obtain a continuous flow of 400,000,000 gallons daily, and in any event the project could not be carried out as cheaply as other sources."

The Army Board's estimates of cost were made by Mr. H. H. Wadsworth, assistant engineer in the San Francisco office of the United States Army Engineers, rivers and harbors branch. Mr. Wadsworth's estimate of the McCloud Aqueduct, which was 25 per cent lower than Mr. Freeman's estimate for the development of the Hetch Hetchy, was arbitrarily raised 10 per cent by the Army Board of Engineers without giving any reason for so doing and without any similar raise in his Hetch Hetchy estimates.

At the recent convention of the counties development board, held on November 7, 1913, at Hanford, a paper was submitted pointing the advantage of using the McCloud River for San Francisco supply, and in this paper was quoted that part of the report made by the Board of Army Engineers touching on this supply. This paper clearly shows, by the board's own figures and conclusions, the fact that the McCloud offers not only a feasible alternative source, comparing favorably in every way with the Tuolumne River, but goes further to show superiority in both physical and engineering conditions and its actual lower cost of development, with the possibility of an income to be derived for many years from the sale of water along the line of the conduit for irrigation. This paper is presented in full as follows.

THE MERITS OF THE M'CLOUD RIVER AS A SOURCE OF SUPPLY FOR SAN FRANCISCO AND THE BAY CITIES.

At the hearing before the congressional committee on the Raker bill, now before Congress, to grant the city of San Francisco the right to use the Hetch Hetchy Valley as a reservoir site, according to press reports, statements were made by the representatives of the city that the Army board's report shows the cost of construction of the Hetch Hetchy project to be \$20,000,000 less than the McCloud River or other sources. This is not correct and is not borne out by the report. On pages 22, 23, 24, 25, and 26 of the Army board's report they say:

M'CLOUD RIVER.

"The McCloud River is a branch of the Pit River, which itself is a tributary of the Sacramento. McCloud River rises on the southern and southeastern slopes of Mount Shasta. It flows in part from glaciers and in part from large springs. The water is clear, cold, and palatable. The inhabitants of the valley drink it at any point and consider it of first-class quality. At some times of the year, said to be for only short intervals, it assumes a milky appearance. This seems to be due to a small tributary, Mud Creek, which at times carries considerable lava sand. On the day of the inspection by a member of the board Mud Creek was carrying a large amount of this sand and the river was quite milky in appearance. It is not thought that this affects the hygienic qualities. It seems probable that by damming Mud Creek and forcing the water to percolate through the soil this sand could be held back, or the water could be confined in a reservoir and allowed to settle. The minimum discharge of the McCloud River being about 1,200 cubic feet per second, or 770 million gallons daily, the flow is ample without storage."

"The rights to the flow of the McCloud River are claimed by the Mount Shasta Aqueduct Corporation, represented by Mr. D. P. Doak. Mr. Doak has offered to build the aqueduct or to sell the rights claimed by the corporation he represents to the city, though the offer is indefinite, being based on the estimated saving in cost over the Tuolumne project. The latest offer of the corporation proposes only selling its rights. The corporation further proposes to deed to the city so much of the land it owns within the watershed above the dam as might be the source of future contamination. This is understood to be the cut-over forest lands, which can be secured at a relatively small cost. The owners of the large individual holdings (summer residences and clubs) would doubtless readily subscribe to any regulations which might be adopted to prevent contamination of the water supply. A considerable portion of the watershed lies within the national forests. The corporation proposes delivery by gravity of 400 million gallons daily at an elevation of 300 feet into reservoirs having a capacity of 30,000 million gallons on Pinole and San Pablo Creeks in the Contra Costa hills north of the city of Berkeley. From these reservoirs the conduit would have a capacity of 400 million gallons daily to Oakland; thence across the bay to San Francisco a conduit carrying 200 million gallons daily and delivery at an elevation in San Francisco 200 feet above sea level."

"The city of San Francisco presented unfavorable reports on this source, and it is further unfavorably commented on by Mr. John R. Freeman. The reports are not, however, either comprehensive or complete."

"Mr. Freeman dwells upon the possibility of infection of the water. With a large part of the watershed owned in fee by the city and another part within the national forest proper policing should present no great difficulties, and additional protection will be given by the proposed storage reservoir north of Berkeley. There would be no power development under the plan submitted, though possibly some could be obtained by dams in the McCloud River, which question has not been thoroughly investigated."

"The withdrawal of so much water from Sacramento River might at times affect navigation and irrigation, as the total low-water discharge at the city of Sacramento is only about 6,000 cubic feet per second. Navigation could be provided for notwithstanding the withdrawal of the water, but at considerable expense. While it is thought that in time most of the waters of the valley of California will be needed for irrigation, the Sacramento Valley is better provided with water than is the San Joaquin Valley, and has a somewhat higher rainfall. As far as known there are no irrigation rights which would seriously interfere with the use of the water by the city for domestic purposes."

"Furthermore, it is stated by the Mount Shasta Aqueduct Corporation that storage-reservoir sites can be found on the lower McCloud River by the use of which the low-water flow can be augmented, though the corporation has made no definite surveys. The city of San Francisco, since the hearing of November 25, has made further examination of the McCloud River and a reconnaissance survey of reservoir sites, and reports a possible site on the McCloud River with an available capacity of 53,100 million gallons."

"It was claimed by the city at the hearing before the Secretary of the Interior that an act of Congress approved May 9, 1906 (see Stat. L., 185), giving the Central Canal & Irrigation Co. (to which company the Sacramento Valley Irrigation Co. is understood to be successor) the right to take 900 cubic feet of water from the river for irrigation when the river is 2 feet above low water, would prevent the city from taking 400,000,000 gallons daily at such times as the river approaches this stage. This is not thought to be necessarily the case. The act of Congress is of a permissive character, its essential object being to prevent damage to navigation, and it would hardly be construed as forbidding any one taking water above the intake of the irrigation company. At the same time, however, there might be some legal complications."

"In this connection it may be proper to note that on July 12, 1912, application was made by Mr. R. T. Stone, of Davis, Cal., for permission to take out 800 second-feet of water at a point on the Sacramento River between the mouth of Feather River and the city of Sacramento, about 12 miles above the said city. The Sacramento and Feather River board, which is composed of three officers of the Corps of Engineers, and which has charge of navigation on these rivers, recommended favorable consideration of this application up to the amount of 800 cubic feet per second, subject to certain conditions, one of which contemplated that the land for which the water was to be used should be actually under cultivation and irrigation. No limitation regarding the withdrawal of the water was suggested by the board when water was low in the river."

"The Chief of Engineers, in order to adhere to the practice indicated in the aforementioned act of Congress, suggested to the board the limiting of the time of taking water to stages of the river of 2 feet and over above low water. The application of Mr. Stone was finally given favorable consideration by the department, and permission to divert for irrigation purposes, not to exceed 800 second-feet of water at a point about 12 miles above the city of Sacramento, was granted by formal instrument executed December 18, 1912. There were a number of con-

ditions attached to this grant or privilege, primarily designed to protect and conserve the interests of navigation.

"The estimates prepared for the board by Mr. Wadsworth are as follows:

For 200,000,000 gallons daily	\$59,550,300
For 140,000,000 gallons daily	5,400,800

400,000,000	64,951,100
By discounting to 1914 the total is	52,500,000

"If the Dumbarton Crossing is used the costs are estimated at:

For 200,000,000 gallons daily	\$65,520,700
For 400,000,000 gallons daily, a total of	76,891,900
By discounting to 1914 the total is	58,100,000

"The difference between the estimates of Mr. Wadsworth and those submitted by the city lies almost entirely in the construction of storage dams on the McCloud River, which have not been considered by the board, and in assumed length of conduit. As previously stated, a storage dam on the McCloud River or adjacent streams is not necessary, either for the purpose of supplying sufficient water for the city or of purifying by storage. The flow in low water is sufficient, and purification if needed can take place in the reservoirs provided for in Contra Costa County. The only object of the reservoirs on the McCloud River would be to furnish water during low stages of the Sacramento for irrigation and other rights. As to length of conduit, the surveys are not sufficiently complete for accurate measurements. It is a question of how straight the line may be, or how necessary it will be to follow in and out on contours crossing the many streams and valleys. It is thought that the estimate of Mr. Wadsworth may be too small in that particular, and an increase of 10 per cent is adopted. This would make the total cost about \$71,000,000 for the bay crossing and \$84,000,000 for the crossing at Dumbarton Point.

"The city claims to foresee two great risks in the McCloud proposition, namely, the crossing at Carquinez Straits and at San Francisco Bay directly to San Francisco. While it is admitted that these crossings are difficult and that this project is in that respect inferior to those projects taking water from the tributaries of the San Joaquin and the Mokelumne, the crossings are not considered as impracticable. The crossing of the bay can be obviated, as above stated, by carrying the aqueduct across at Dumbarton Point, though with considerably increased cost.

"The first and main conclusion reached by the advisory board of Army engineers is as follows:

"The board is of the opinion that there are several sources of water supply that could be obtained and used by the city of San Francisco and adjacent communities to supplement the near-by supplies as the necessity develops. From any one of these sources the water is sufficient in quantity and is, or can be made, suitable in quality, while the engineering difficulties are not insurmountable. The determining factor is principally one of cost."

The Army board's estimates of cost of the Hetch Hetchy project, fully developed for a supply of 400,000,000 gallons per day, as set forth in their report, is \$77,367,400. Their estimate of the cost of the McCloud project, fully developed for a supply of 400,000,000 gallons per day, with bay crossing, is \$71,446,200, showing a saving in favor of the McCloud in actual cost of construction of \$5,921,200.

The figures of Mr. H. H. Wadsworth, assistant engineer of the board, show a saving of \$12,416,300, and those of Mr. R. W. Van Norden, a prominent and well-known engineer of San Francisco, who made an independent estimate of cost, finds a saving of \$22,743,000.

It should be understood that the plans submitted by the proponents of the McCloud project call for the construction of a reinforced concrete aqueduct of the highest type and class of permanent construction, developed at the beginning to its full capacity of 400,000,000 gallons per day, with a view of utilizing the surplus water for irrigation until the same is needed for domestic purposes, whereas the plans submitted by the city for the Hetch Hetchy project call for an entirely different class of construction, a large part of which is steel pressure pipe which will deteriorate and will have to be replaced at the end of 20 or 25 years. The Standard Oil Co. is now replacing oil-pipe line in the San Joaquin Valley that has been laid less than eight years.

By adopting a system of high finance, suggested by Mr. Freeman, by which the dates of expenditures required for the several projects are discounted on the basis of 4½ per cent compound interest, the board of Army engineers find that the amount required to finance the Hetch Hetchy project (entirely due to dates of expenditures) would be about \$20,000,000 less than would be required to finance the McCloud River project on the plans submitted. In arriving at this result, however, no account was taken of the revenue which would be derived from the surplus water of the McCloud project sold for irrigation up to the time this water would be needed for city use. The revenue from this surplus water would, if sold at the price fixed by the Los Angeles Aqueduct for their surplus water, be sufficient to pay 4½ per cent interest on over \$40,000,000.

There was also no account taken of the cost of the extra depreciation of the Hetch Hetchy project due to the replacement of the pipe construction. No competent engineer will estimate the life of that part of the pipe across the San Joaquin Valley at over 25 years, and that of the Santa Clara Valley at 40 years. It must be remembered that the plans and estimates call for ordinary steel pipe and not expensive Scotch iron pipe, such as used by the Spring Valley Co. The cost of renewal of the pipe alone up to the end of the present century would be at least \$84,000,000, or many times what would be saved in interest by constructing the project in units. It is therefore impossible, considering the different classes of construction of the two projects, to make any relative comparison of cost of construction, operation, or maintenance.

If there was any merit in constructing the project in units, the plans for the McCloud project could be redesigned for the same class of construction proposed for the Hetch Hetchy project, which would admit of the proper comparison of the amount of money necessary to finance each project; but when the exceptional advantages which the McCloud project offers for the class of permanent construction as proposed (not possible under the Hetch Hetchy project) are considered, and the saving in operation and maintenance by such class of permanent construction, such a change in plans could not be considered.

Secretary Fisher, in passing on the application of the city of San Francisco, says, on page 6 of his review of the case:

"The plans and data submitted at the hearing before the Secretary of the Interior thoroughly demonstrate that the McCloud River is just as practicable and more economical a source of supply for the city of San Francisco than the Hetch Hetchy source, and can be utilized without interfering with any existing rights."

The report of the advisory board of Army engineers shows that the minimum flow of the McCloud River is over 1,200 second-feet, or equal to about 800,000,000 gallons daily.

That the quality of the water is good and pure and that it can be easily and economically maintained in its present good condition.

That it is not needed for irrigation, and that reservoirs are available which could be used, if necessary to overcome any interference with navigation.

In fact, the report of the board of Army engineers absolutely sustains every claim made by the proponents of the McCloud River project.

A further exhaustive delineation of the injustice and fallacy of giving the Tuolumne storage waters to San Francisco, in the face of the possibility of using the McCloud, is given by Mr. Clement H. Miller in an address before the San Francisco Center of the California Civic League. Excerpts are taken from this address as follows:

"It is vitally important to the bay cities that this question be definitely settled in so far as the use of this valley for their benefit is concerned and their public officials given a positive problem to settle instead of wasting time, instigated by misguided officials, on a forlorn hope, that the attorneys for the city admit would only invite years of litigation in case the grant to the city should be confirmed.

"Mr. M. M. O'Shaughnessy, city engineer of San Francisco, stated to his friends just about one year ago when appointed to the position of city engineer, that the Hetch Hetchy project was a hideous blunder, but that the city had gone so far that they could not back out and would have to go through, regardless of cost.

"The attitude of the city officials, for some unexplained reason, is one totally disregarding the possible benefit or detriment to any other locality in obtaining a water supply for their own use.

"In addition to this concession there are landowners to many thousand acres of land having riparian rights on the river below the limit of these two districts, whose rights are in no wise protected or provided for except as they defend their rights by proceedings in the courts of the State.

"The data from which the assumed estimate of available water supply was calculated were records of stream gauging for a 17-year period, from 1894 to 1911.

"The records of the past two years are alone sufficient to completely refute the reports submitted by the engineers for San Francisco and accepted by the advisory board of United States Army engineers in their conclusions.

"Without taking into account the losses due to evaporation from reservoirs and leakage from high-pressure steel pipe lines, the reservoirs would have been completely drained, and there would have been a deficit of 140,000 acre-feet up to October 1, 1912.

"The stream flow for 1912-13 was 1,075,650 acre-feet, all of which could have been saved.

"This is 57,000 acre-feet less than the amount required for irrigation, and would have used all water stored in reservoirs, with no water available for bay cities during the entire year and no probability of more water until snow melts next April, provided the usual snowfall occurs during this winter season.

"Under such conditions these storage reservoirs would have relatively but little value for development of electric power for general commercial purposes and would involve duplicate steam generating plants to furnish dependable power for the bay cities.

"It is primarily a matter of judgment in deciding how far the report of the Army board can be taken as decisive and complete.

"A report on a water supply should not be considered complete that does not state the cost of water to consumers.

"The Army board states that the supply 'if economically used will be ample for 473,000 acres of land, and the reasonable needs of the bay cities.'

"That this statement is a positive error has been proven by the past two years' records.

"They have not even considered in their report the cost of maintenance, operating expenses, depreciation, or the capitalized value of possible losses of crops on lands deprived of water.

"Evidence was presented in the hearing before the Public Lands Committee of the House by Mr. Dennett, of Modesto, that food products to the value of \$100 per acre would be annually produced on the 200,000 acres of land that is admitted by Mr. PITTMAN, Mr. NEWLANDS, and Mr. PERKINS would be deprived of water. This represents an annual loss of \$20,000,000 in crop values or every year a loss equal to what is erroneously stated would be San Francisco's loss to get her water supply from other sources.

"The real issue to be considered in this matter is not whether 750,000 people or 200,000 acres of land shall be deprived of water, but whether 200,000 acres of land—that can not be farmed without water—should be deprived of water when an abundant supply can be obtained for the bay cities without it depriving one human being, one acre of land, or one river steamer of water necessary for their purposes.

"From the report of California's conservation commission for 1912 the following facts appear:

"Of the agricultural areas (San Joaquin Valley) which must remain without a water supply, roughly 1,400,000 acres can be considered as being west-side and south-side lands and the remaining 1,750,000 acres as divided among the east-side areas. This is a total of 3,150,000 acres of San Joaquin Valley for which no possible water supply is at the present time known, even if complete storage of normal run-off were possible. (Page 229.)

"Tuolumne River is slightly larger than the San Joaquin. It is the only stream in the valley whose discharge is capable of irrigating its adjacent valley and plains land when fully utilized." (Page 227.)

"The mean annual run-off can supply the 473,000 acres of agricultural land reported available. The opportunities for storage are considered better than on any other Sierra stream.

"And still the record of this hearing by the testimony of Mr. O'Shaughnessy and reports of the Army board show that storage reservoirs for only one-third of the normal run-off are available at any cost, and the remaining floods, in excess of what the irrigating ditches can divert during flood season, must inevitably be lost.

"These data can be confirmed as correct in Bulletin 254, United States Department of Agriculture, pages 26 and 27.

"Under conditions as indicated above, would it be a crime or merely a hideous blunder to take water from this source? Especially when the evidence, taken from the same report (p. 166, California Conservation Commission) shows a tremendous surplus and unavoidable annual waste from the Sacramento River."

EFFECT UPON NAVIGATION IN SACRAMENTO RIVER.

It has been noisily proclaimed through inspired editorials in ill-advised newspapers that the proposed draft from the McCloud River will lower the Sacramento at stages of low water to a degree which will interfere with navigation.

In the fifth annual report of the United States Reclamation Service (p. 94) a summary of the capacity of the available storage sites in the Sacramento watershed gives a total of 7,000,000 acre-feet, with a minimum available run-off which could be caught in these sites, but which is now wasted, of about one-half the storage capacity named. The Big Valley and Iron Canyon reservoir sites, at the head of the Sacramento Valley, are alone capable of storing 1,226,000 acre-feet, or five times the amount necessary to maintain the navigability of the Sacramento River under present conditions.

Storage on the McCloud is possible (report of Army board of engineers) to maintain the full flow to be diverted without Sacramento River storage and without altering present navigation conditions. Navigation can be easily and doubly protected and still supply San Francisco and the bay cities and all the possible irrigation requirement of the entire Sacramento Valley for all time and allow enough water to go to waste to irrigate 4,000,000 acres of land.

THE SPRING VALLEY WATER CO.

The Spring Valley Water Co., which has supplied San Francisco with water for the past 55 years, has carried on an extensive campaign to show and prove that it possesses resources which it can develop and add to its system to give an ample water supply to take care of the needs of San Francisco until the end of this century.

Full reports on the resources and possibilities of this system are on file with the Secretary of the Interior.

IRRIGATION REQUIREMENT IN THE MODESTO AND TURLOCK DISTRICTS.

Statements of the economic requirement of water for the Modesto and Turlock districts and contiguous lands dependent upon the Tuolumne River for irrigation are often misleading and ambiguous. For instance, the amount of alfalfa which can be produced increases up to a certain limit by increasing the quantity of water applied to the land. (Bulletin No. 10, Department of Agriculture.) An extra foot of water, at a cost of \$4, may mean an additional ton of alfalfa per acre, almost a clear profit, as the equipment cost increases very slightly. Or, on the other hand, it would not pay to cultivate land for diversified farming at a cost of \$5 per acre in order to save 6 inches, or one-half acre-foot of water.

Heroic measures would be required to cut down the supply of water far beyond the best economic results in lands subservient to the Tuolumne River, as advised in the report of the board of Army engineers, to 3½ and finally to 3 acre-feet per acre per year. This is readily shown in an article, from which excerpts are here given, published in Engineering News, September 11, 1913, entitled "A study of irrigation heads in the Modesto and Turlock irrigation districts, California."

HEADS, CHECK SYSTEMS, AND OTHER PRACTICES IN THE MODESTO IRRIGATION DISTRICT.

"The size of 'head' (volume of water in cubic feet per second delivered to each individual irrigator) and the length of time the head is to be used per acre of land are a vital factor in the design and operation of irrigation works. To secure definite information based on actual practice, Edwin Duryea, Jr., of Duryea, Haehl & Gilman, civil and mining engineer, Humboldt Bank Building, San Francisco, Cal., sent an assistant engineer to make a study of actual practice in the Modesto and Turlock irrigation districts. This study was made near the close of the irrigation season of 1912 (observations in late July; report dated Aug. 8, 1912) by P. C. Berkefeldt, assistant engineer, south San Joaquin irrigation district. The report was made for the benefit of the district just named, Mr. Duryea being chief engineer of that district.

"Mr. Duryea has kindly sent us a copy of Mr. Berkefeldt's report, from which we have taken the following statements:

"The Modesto irrigation district is located in Stanislaus County, is bounded by the Stanislaus, San Joaquin, and Tuolumne Rivers, and has a total area of 81,143 acres, of which 40,000 acres are under irrigation. The Turlock irrigation district lies south of the Modesto, in Stanislaus and Merced Counties, is bounded on the south by the Merced River, and has an area of 176,210 acres, of which about 80,000 are under irrigation. Each district takes its water supply from the Tuolumne River through joint headworks near the boundary of Stanislaus and Tuolumne Counties. The soil in each district is for the most part sandy, that in the Modesto district ranging from "almost pure sand to a fairly stiff clayey, sandy soil," and that in the Turlock district being even more sandy, but with spots of "almost pure sand" alongside of comparatively stiff clayey, sandy loam." In the Modesto district there is a tract of some 1,800 acres of "heavy, red, gravelly soil." In general the depth to hardpan in each district is from 3 to 12 feet, but in the 1,800-acre tract just mentioned it is only from 1½ to 3 feet deep.

"Alfalfa is the principal crop raised in each district, its acreage being 86.4 per cent of the total area under irrigation in the Modesto, and 76.8 per cent in the Turlock district, in 1912.

"Each district is taken up separately by Mr. Berkefeldt. We quote his remarks on the Modesto district nearly in full:

"Heads and time: The head during the present—1912—irrigation season up to July has varied from about 16 to 20 cubic feet per second. The time limit is a half hour per acre. This means from 8 to 10 inches per irrigation. The irrigators think that they are getting from 4 to 6 inches per irrigation. The superintendent of ditches stated that a head of 15 to 20 second-feet for 20 minutes would give an irrigation of from 4 to 6 inches.

"The district recently passed an order fixing the minimum head at 15 second-feet and time limit to 20 minutes to the acre.

"From July 23 to 25, when the water was running low, and before it was bunched, both the irrigators and ditch tenders greatly overestimated the amount of water they were using; in many instances their estimates were twice as large as given by the meter gaugings. In only one instance was the estimated head smaller than the result obtained by the meter gauging. Mr. Berkefeldt measured the irrigation heads by means of a Lallie current meter, using the two-point system, one-fifth and four-fifths depth.

"The conditions at this time were not normal, and the irrigators were greatly discontented, for on account of the time limit of 20 minutes to the acre and the small head they were using, they could either irrigate part of their land well or else all of it with a comparatively light irrigation.

"With an actual head of 5.6 second-feet irrigating one 1½-acre check, sandy soil, crop alfalfa, the water had traveled about two-thirds of the length of the check in 55 minutes when it had to be turned off. Toward the end the water was sinking into the ground about as rapidly as it was supplied to the check, without gaining very much headway along the check.

"With an actual head of 12.7 second-feet irrigating sandy soil, crop alfalfa, the time averaged about 76 minutes to the acre. This means an irrigation of about 15 inches depth. The irrigator estimated this as

from 4 to 6 inches depth. In this particular instance the irrigator will only be able to irrigate part of his land.

"With an actual head of 7.1 second-feet irrigating 1 acre, fairly sandy soil, crop alfalfa, the time for a fair irrigation—depth estimated by irrigator from 4 to 6 inches—averaged about 50 minutes. This means an irrigation of 5.8 inches.

"For fairly sandy soil and sandy soil, crop alfalfa, it is considered best by both irrigators and ditch tenders to use a larger head for a short length of time; the general opinion is about from 15 to 20 second-feet, but preferably between 18 to 20 second-feet, and a time limit of 20 minutes to a half hour per acre, covering the ground to a depth—estimated by them—about 4 to 6 inches. This is an actual irrigation of from 6 to 10 inches.

"With a smaller head than about 15 second-feet if the check is large or if the soil is very sandy, or if the ground is not checked up well—namely, the grade too flat and ground uneven, or if it happens to be a high check with respect to the ditch it is to be irrigated from—it takes too much water and too much time to cover the land.

"It is considered best to flood the check quickly, and not allow the water to stand on it for any length of time. Wherever possible the best way is to shut the water off before it has quite reached the lower end of the check, gauging the water so that it will just cover the lower end to the proper depth with the excess water at the upper end of the check. This, of course, can only be determined by repeated trials, but the general practice is to give the land all the water they can with the head and time limit they have."

Stanislaus County needs all of the water supplied and which can be conserved in the Tuolumne River watershed.

To deprive the lands dependent upon this water is to violate the main principle of true conservation upheld by our Government and to eventually create an appalling economic waste.

That this is true, and that such a calamity is fairly, justly, and feasibly preventable is proven by the official data which have been published and supported by the quotations and other statements of fact from unbiased sources included in this presentation.

Mr. GRONNA. Mr. President, as I said at the outset last night, no one is more willing to help San Francisco get a water supply than am I. In the arid regions of the West water is more valuable than any mineral; it is more valuable than gold or silver. Everyone who lives in the West recognizes that fact. There is no disposition on my part to in any way obstruct or deny San Francisco getting a water supply. There can be no possible reason why I should be opposed to any city in the State of California getting a water supply; but I have for six years been convinced that there are other available sources of supply that will give San Francisco and all the bay cities abundant water, and that it will do no injustice to the people who live nearby. All the interest I have in this matter is to see that justice is done to the people of the State generally.

It is true that the people of the United States have a claim upon the Hetch Hetchy Valley; it is public land; it is a public park; but if San Francisco or the State of California needs those waters, if there is no other place to secure an abundant water supply, I for one am not willing to deny the people of that State the right to destroy the scenic beauty of the Hetch Hetchy Valley, valuable as I deem it to be to the people of the United States.

Mr. NORRIS. Mr. President—

The PRESIDING OFFICER. Does the Senator from North Dakota yield to the Senator from Nebraska?

Mr. GRONNA. I have yielded the floor, Mr. President.

Mr. NORRIS. I simply want to ask the Senator a question, if he will hold the floor long enough to answer it. I know, of course, that the Senator is perfectly conscientious—that goes without saying—but I am impressed with his statement that he wants to do absolute justice to San Francisco. Now, assuming that the Senator is right, that there are other places where San Francisco can get water, that she ought not to be allowed to dam the Hetch Hetchy, I want to ask the Senator, in all fairness and in his view that we ought to do justice, whether or not we ought not, either from the Government of the United States or from some other source, to pay back to San Francisco, if we do not permit her to use this water by building the dam, the money that she has expended in purchasing the land within that valley and the water rights that she was compelled to purchase under the orders of the officials of the United States?

Mr. GRONNA. I believe it would be only justice to do that. I do not know whether or not we could do it, but if we have the right I for one should be very glad to join the Senator in doing so.

Mr. NORRIS. That is a point that has not been dwelt on by those who are opposed to the bill so far as I have heard.

Mr. GRONNA. If the Senator will permit me, of course I would not be willing to pay the expenses the city of San Francisco has incurred, because I imagine that the expenses of the city of San Francisco have been very large if we take into consideration the delegations that have been here for the past six or eight years. I am not saying this now with the idea of casting any reflection upon those people; I do not say that it was from any sinister motive that they have been here.

Mr. NORRIS. I am glad to hear the Senator say that; and I was satisfied that he would do so, because I think he will agree with me that, so far at least as anything I have seen or

heard is concerned, the persons who have been here representing San Francisco have taken a perfectly honorable course.

Mr. GRONNA. I believe so. They have so far as I know.

Mr. NORRIS. Nobody, of course, would expect the Government to pay those expenses; but what I am referring to is that San Francisco had to pay something over \$100,000 for land that was in private ownership in this park.

Mr. GRONNA. She had to pay \$150,000.

Mr. NORRIS. She was compelled to pay a large sum of money to buy the water rights in adjacent lakes by order of the Secretary of the Interior. That money has been actually expended, amounting all together, I believe, to between \$1,000,000 and \$2,000,000.

Mr. CLARK of Wyoming. Mr. President, I think the Senator from Nebraska has an erroneous impression as to some of this matter. The city of San Francisco purchased lands within this park not at the suggestion of the Secretary of the Interior, but the city of San Francisco purchased those lands at its own suggestion, and she had lands both within this proposed reservoir site and outside of this reservoir site. The Senator will recollect, if he has followed the Hetch Hetchy proposition from the start, that the first proposal was nothing of this sort. The first proposal was simply a proposal from those desiring this reservoir site that San Francisco might exchange lands which she had outside for lands which the Government owned inside; and, of course, whatever expense she incurred was either incurred in that way or was incurred under the revocable permit which was granted by the Secretary of the Interior thereafter.

Mr. NORRIS. The Senator from Wyoming will certainly not deny that under the so-called Garfield permit San Francisco was required to purchase privately owned lands.

Mr. CLARK of Wyoming. Certainly.

Mr. NORRIS. I am not complaining of that. She ought to have been required to do so; but, of course, she could not take that land without compensation. She did purchase it; and nobody questioned her good faith in doing so.

Mr. CLARK of Wyoming. No.

Mr. NORRIS. Nor the order under which she did so. Now, if we refuse to permit her to build a dam, ought we not to return that money which she has expended?

Mr. CLARK of Wyoming. The Senator states the facts a little too boldly. The Garfield permit granted a revocable permit to make use of the Hetch Hetchy site under certain conditions. The one prime condition was that she should first improve another site.

Mr. NORRIS. She did that.

Mr. CLARK of Wyoming. Oh, no.

Mr. NORRIS. Oh, yes.

Mr. CLARK of Wyoming. And if that site should prove insufficient for the needs of San Francisco, she should be allowed to take the other site. That is the Garfield permit. She has never yet determined whether or not that first site was sufficient.

But I want to say to the Senator in giving my answer, if it is of value to him, that if the refusal of the Senate to pass this bill should deny to San Francisco the right to use this site under the same terms that the Government has granted other sites and under the terms which were proposed by the parties in the first instance, I should say "yes" to the Senator, that San Francisco ought to be reimbursed; but this bill can be put in such shape now as to meet legitimate objections and still pass, giving San Francisco the full water supply she requires for her needs. When we refuse to give San Francisco something more than she asked for or was contemplating in the original contract—I consider it a contract that ought to be carried out on both sides, although it was a revocable permit—if she now asks something more, or if she should want something more—and I do not think she will, because the legislation will go through in some form—she could hardly get it back on the claim of an excess beyond the original understanding of the parties.

Mr. SMITH of Arizona. Mr. President, this being the only opportunity I shall have without unduly delaying the needed legislation here pending I avail myself of it to briefly give the main reasons impelling me to support this bill. I would not now say a word, but content myself with a vote in its favor except for the reason that some of my western colleagues think, or seem to think, that my present attitude is inconsistent with the views I expressed on this floor when the Connecticut dam proposal was before us for determination. I voted and spoke against that bill for reasons then expressed. I shall vote for this bill for the reasons I shall set forth now, and those according to their attention will, I am sure, find no inconsistency in my attitude.

Mr. NELSON. I want to suggest to my good friend from Arizona that the Senator from Massachusetts [Mr. WEEKS]

had given notice of his intention to make a speech on the currency bill at this time.

Mr. SMITH of Arizona. I was aware of that fact and would not have intruded on his time without first having obtained his willing consent. He very graciously yielded to me, and I shall not abuse his courtesy by any undue consumption of time.

Mr. NELSON. Very well; I was not aware of that arrangement.

Mr. SMITH of Arizona. Mr. President, I want to assure my colleagues from the Western States, and I want all other Members of this Senate to know, that I am in hearty and intense sympathy with the Western States in their just opposition to any intrusion of the Federal Government on their rights to use and make such other disposition of the nonnavigable waters as to the several States may seem meet or proper. The Federal Government has no ownership of these waters, and should have no control of them. In plain language it is none of its business what we do with our own property. The waters of a State belong to the State. The Government holds the lands through which the streams may chance to flow simply as proprietor and not as a sovereign. The Government holds no title to its lands which is in any way superior to a good fee-simple title held by the humblest citizen in the State.

The State laws governing the control and use of the non-navigable streams in any State are equally binding on the Government and the smallest fee simple title in the hands of any citizen of the State. I shall never cast a vote here for any measure that in my judgment gives to the United States any measure of control or power over the nonnavigable waters of any State in this Union, or that will attempt to use or control or tax or burden any waters in any river, however large it may be, in excess of the Federal right to preserve the navigability of the stream. This was my contention in the Connecticut Dam bill, and to it I still adhere. I shall not detain you by an attempt at an analysis of the very plain distinction between the facts of the Connecticut case and the one now before us. It is enough to say that in the one case the Government claimed the right to collect a tax on the power generated by the waters of the State produced by private capital which confessedly improved the navigation of the stream. In this case it does no such thing nor does it attempt under the provision to do any such thing. That strikes me as difference enough. This bill does not contravene any right of the State, however hard and unconscionable a bargain it forces on the people of San Francisco. Instead of injuring any valid right of any farmer or prospective farmer on any valley below the proposed dam, the city and its people are subjected to exactions extremely burdensome if not outrageously unjust. Like the victim on the road, these people have been held up, but like that victim they submit or endure still greater disaster. I shall vote for the Hetch Hetchy bill because I find nothing in it contravening any right of the State to the waters of the State. The State has already given its sanction to this use of the surplus waters of the river and San Francisco asks nothing more than the surplus. I shall vote for the bill because I personally know the necessities of the vast multitude of people around the bay for an abundant and pure supply of water for domestic use. I shall vote for it to relieve the people of that suffering and stricken city from the throat clutch of the Spring Valley Water Co., which has too long preyed on the prosperity of the city and which was unable in time of its dire disaster to afford it any protection from the destroying conflagration.

From the desolation of ashes, despair would have unnerved other hands and other hearts, but the invincible spirit of the West, undaunted and unafraid, reared a new and a greater city; but it has not, because it can not, by opposition here, protect itself against a repetition of a like disaster.

Think of this, and pause before you further burden them with opposition born of a propaganda financed by venal, selfish interests which have persuaded so many good people, ignorant of every essential fact in this controversy, to petition you and me to preserve the beauty of the national park, forgetting or ignoring the wants and necessities of living men and women.

Mr. President, around the Bay of San Francisco are 800,000 people to be benefited by this bill. I can not listen with any degree of patience to the assertion that their absolute necessities must be subrogated to the desires of a few hundred families that might probably make homes in the valley below the proposed dam if somebody would build a dam whereby they could get the flood flow of the river. The full flow of the river under normal conditions is granted in this bill to the claimants of water for irrigation. The full flow of the river and all waters caught from floods and held in reservoir would not irrigate one in one hundred acres of the desert lands below this proposed dam. Yet you opponents propose that the crying wants

of 800,000 people shall be ignored in order that a hundred thousand acres might possibly be watered if somebody from somewhere would build this proposed dam for some settler from somewhere if he could be induced to come. Think a minute, Senators. If every drop of obtainable water should be saved by reservoir in this river and applied to the valley below, the farms created would be as a flyspeck on the face of the landscape, equally entitled, acre for acre, with the others to every impounded drop of surplus water. And if on every farm of 40 acres thus created you should put some poor family from San Francisco who needs drinking and cooking water, you would not miss them in any subsequent census of the city.

Mr. President, it has been my good fortune to spend all my possible leisure hours amid the mountains and along the streams of our gloriously picturesque landscapes. Those who love its beauties more only have more capacity for enjoyment than I possess. This affection of mine for the beauty of nature leads me as nothing else could to sympathize with those thousands of people who have sent their protests against the destruction of the beauties of the Yosemite National Park. The only trouble is they do not know what they are talking about. Not ten of the thousands of protestants ever saw Hetch Hetchy. Not one in one hundred of them know where Hetch Hetchy is. Not one in fifty thousand of their descendants would ever see Hetch Hetchy if left in its present condition. The deluded, well-meaning souls, from their hasty petitions, seem to think that Hetch Hetchy is a part of the Yosemite Valley. None of them seem to know that it was five years after San Francisco secured its rights before Hetch Hetchy was added, by Executive order, to the Yosemite National Park. Hetch Hetchy has no more connection with the Yosemite Valley than the Yellowstone Park has with the Grand Canyon of the Colorado.

A clear lake covering the mosquito-haunted, sunburnt bottom of Hetch Hetchy, covering only a mere speck of 1,300 acres of land, would largely add to the beauty of the surroundings. But whether it did or not, that question becomes insignificant in the face of man's necessities. We all love the sound of whispering winds amid the trees, but the wail of a hungry baby will make us forget it for the while as we try to minister to its wants.

You lovers of nature from scenes so remote from this Hetch Hetchy Canyon will do well to give less attention to nature's beauties and more sympathy to the wants of men. Love nature all you please, but do not forget its crowning glory—man. If you lovers of God's handiwork, whose glories have been revealed to you in the chasms which the streets cut through sky scraping business blocks, will go a street or two away and feed a hungry family you will be engaged in a more humane and far more ennobling and God-serving business than in talking about and spending money to protect the beauties of landscapes 3,000 miles away, of which you have seen nothing, of which you have known nothing, and of which you have heard nothing, except through a propaganda forwarded and supported by selfish, designing people, who are using you for profits to themselves.

I am not charging that these protestants or any Senator on this floor has been moved in this opposition except through the highest motives, but nevertheless I am fully persuaded that selfish interests have put up the money necessary for this wide advertisement of opposition. Who else would do it? The protesting farmers, through their representatives, agreed to the terms of this bill, and very wisely agreed to it, for in all the land there is not one irrigating farming community as fully protected as those who will enjoy the beneficence of this bill. Who is behind this opposition? In my deliberate judgment, after having for years had this matter before committees of which I was a member, the Spring Valley Water Co., a private monopoly, has been the mainspring turning every wheel of the machinery; the land speculator below the dam, who expects to reap great profits from now worthless land if this scheme shall fail; the owners and promoters of the other impractical schemes for supplying water to San Francisco in case this bill can be defeated in this body; the electric plants; the gas plants owned, maybe, by private monopolies who will be injured in the liberation of the people from their exactions—all this horde of selfishness and greed and avarice have combined against this beneficent measure. Who else had an interest in the defeat of this bill? Every vested right of every farmer is abundantly protected. Every one of them agreed, as I said before, to its provisions until they were stirred by influences the object of which they did not understand to this new-born opposition. What statements were made to them we do not know, but we find no difficulty in conjecturing.

And all this opposition in the face of the fact that the whole flow of the river is secured to them and no possible injury under this bill can be done them.

San Francisco must spend an enormous amount of money to carry out the purpose of this measure, and you know as well as I know that these people would not spend this money unless they needed the water and needed it very bad indeed. They have not only amply safeguarded the vested right of every water claimant on the river, but have gone still further in that it is provided that power shall be furnished at prime cost to those farmers in the valley below for pumping water to the surface for irrigation. There is no other earthly possible chance to irrigate these unreclaimed lands at a reasonable price than that offered to the very farmers actively but unwittingly opposing this measure. The lovers of nature opposing this bill know nothing about the facts, and seem to care as little about the human issue in the case. We can respect their purpose by excusing their ignorance and then proceed to do justice to human necessities regardless of their love of unseen landscapes.

Mr. President, I have said this much in hasty explanation of my proposed vote. It rests on my desire to serve humanity, to do right to my fellow man. I love trees, but I love men more. I love beautiful landscapes, but I love relief from human want far more. To give to a million people a necessary of life and in so doing violate no right of any other person is a duty so evident, an action so imperative, that my earnest support is gladly given to this bill. I must not close without assuring my colleagues who oppose this measure that I am not insensible to an opposition based on the ground that this measure recognizes, in their opinion, the right of the Government to interfere with the State in a matter within pure exclusive State control. I agree fully with them if the case presented that aspect; but it does not.

I thank the Senator from Massachusetts for his courtesy in permitting me to trespass on his time, and apologize for consuming as much as I have.

BANKING AND CURRENCY.

Mr. NELSON. Mr. President, I ask that the Hetch Hetchy bill may be temporarily laid aside, and the banking and currency bill laid before the Senate, to which the Senator from Massachusetts [Mr. WEEKS] desires to address himself.

The Senate, as in Committee of the Whole, resumed the consideration of the bill (H. R. 7837) to provide for the establishment of Federal reserve banks, to furnish an elastic currency, to afford means of rediscounting commercial paper, to establish a more effective supervision of banking in the United States, and for other purposes.

Mr. WEEKS. Mr. President, before I take up the particular phases of the pending bill which I have selected for discussion this afternoon I wish to refer briefly to the resolution which the Senate has been discussing two hours a day during the past five days, because I have some evidence which, if I had had the time, I should have submitted during the consideration of that resolution.

One of the points which has been made by Senators has been that there was urgent need that the currency bill be passed, because the banks of the country were not responding to business needs, and therefore there was a falling off in general business. The inference to be drawn from this statement is that the falling off in business was due entirely to delay in passing the currency bill and to the action of the banks throughout the country.

It has not seemed to me that that was a sufficient reason for the falling off in business. It is true that there has been a decline in general business. The returns of our clearing houses throughout the United States for the week ending November 29 showed a falling off from the corresponding week last year of 6.9 per cent in the total volume of clearings.

The difference between good business and indifferent if not bad business is measured by not more than 5 per cent change in the volume of clearings of the banks. Here is a decline of 6.9 per cent without any other reason than the probability that business has been affected by various matters which are now pending.

I believe Senators on the other side who have been advancing this as a reason for early consideration of the currency bill will find, when the currency bill is passed—and I hope it may be passed soon—that it does not and will not affect the general business of the country as they anticipate, because the currency bill is not going into effect for months. We are not going to feel any effects from it for at least six months, even if that were the sole reason for the decline in business. My judgment is, however, that the decline in business is due to a variety of causes—to the tariff bill which has been passed, to the prospect of corporation legislation, to the delicate foreign situation in which we are involved, and many other matters which have

quite as much bearing on the volume of business to-day as has the consideration of the currency bill.

To bear out this statement I wish to call attention to a statement made by the junior Senator from Ohio [Mr. POMERENE] on the floor of the Senate the other day, which brought this matter directly before the Senate and the country. The Senator from Ohio said:

A prominent note broker advised an Ohio manufacturer as follows: "The large banks in the large cities have not been buying any paper since March and have advised country correspondents to make themselves just as liquid as possible, and stay so, in order to meet provisions of the bill. In consequence we are absolutely at a standstill."

I take it that the inference the average man would draw from that statement is that the banks of the country are not loaning generally. There are two ways in which banks provide for their loanable funds—one, loaning directly to their customers; the other, loaning to outside borrowers when they have surplus moneys which their own customers do not require. It is the second manner of loaning to which the Senator from Ohio particularly refers, but even in that case I submit to the Senate that there is probably very little, if any, justification for the statement.

About a week ago I communicated on this subject with bankers in various sections of the country. Of course I could not do it in a great many cases, but I did in six or eight cases, and I think their replies will be sufficient to convince the Senate that there is substantially nothing in that general proposition.

For instance, here is a telegram from one of the leading bankers in Kansas City, Mo., a man respected and followed by bankers and business men in that section of the country. He says:

Deposits here great amount less than one year ago; loans very much higher; in comparison, same date, deposits of this bank are two and a half millions less and loans seven hundred thousand more than one year ago. Our legal reserve one year ago, 88 per cent; to-day, 29. This will refute any such statements as are being made as to this part of the country, anyway.

Here is an extract from a banker in New Orleans—one of the best-posted men, I think, in the banking business in the United States. He says:

I am in receipt of your letter of the 27th instant, and, in reply, I beg to say that the banks throughout this section of country are not restricting credits on account of pending currency legislation, nor are credits, in fact, restricted at all, except in the sugar section, which has to face a reduction of 25 per cent in the tariff for the coming two years, with free sugar thereafter, and which naturally seriously affects the basis of credit on loans of that character. Every other class of business is receiving its usual and customary accommodation and the declining tendency of business is, in my opinion, due more to tariff changes, affecting as it does, in addition to sugar, both rice and lumber, than to any other cause.

That letter is written by a good Democrat.

Mr. THOMPSON. Mr. President—

The PRESIDING OFFICER. Does the Senator from Massachusetts yield to the Senator from Kansas?

Mr. WEEKS. I do.

Mr. THOMPSON. I was interested in the telegram from Kansas City. Does the Senator feel at liberty to give the name of the sender?

Mr. WEEKS. Oh, yes. I have not authority to do it, but I have no doubt the sender of the message will be quite willing to have it included in the RECORD. It was Mr. Swinney, the president of the First National Bank.

Here is a letter from Mr. George M. Reynolds, the president of the Continental-Commercial National Bank, of Chicago. It is much too long to read in its entirety, but I wish to read an extract from it. He says:

The truth is there is an overexpansion of credit throughout the West, and this applies particularly to country banks.

We have to-day outstanding in loans to country banks and bankers which are our correspondents about \$26,000,000, all of which has been scattered amongst nearly 1,000 banks.

I will say that Mr. Reynolds testified before the Committee on Banking and Currency that his bank was the correspondent of 5,000 banks scattered throughout the country. Now, it seems that he is loaning to 1,000 banks, and loaning \$26,000,000 to them.

He goes on to say:

The liquidation which took place in New York and earlier in the year has not been followed to the extent that it should have been by the smaller institutions throughout the country, as is evidenced by the fact that our loans to our corresponding banks—which have averaged around \$25,000,000 since about the middle of May—are about \$10,000,000 higher than the average for the same period last year.

That does not look as if country banks were failing to respond to the demands of their customers; apparently not only are they responding up to their limit, but they are borrowing of this one bank in Chicago \$26,000,000, or \$10,000,000 more than they were borrowing last year.

Here is a letter from Mr. James B. Forgan, the president of the First National Bank of Chicago, who testified before the

Committee on Banking and Currency that his bank had, as I recall, 2,000 corresponding banks. I shall not take the time to read the letter in full; but Mr. Forgan says, as a postscript to his letter:

Our loans to country banks are \$2,500,000 more than they were at the corresponding date of last year.

In other words, in both cases of those great Chicago banks they are assisting country banks to take care of their customer banks in the country to a greater extent than they were at the corresponding period last year.

Here is a letter from the president of a New York bank, whom I am not at liberty to name. Although it is not the largest bank in New York, it is a very good one. In this letter he says:

Taking, for instance, our own condition. Our discount line to-day is one million and a half dollars above that of the same date last year, while our deposits on the other side are about two and one-half millions less, showing that we are granting considerably more commercial credit on a smaller business than at the same time last year. Our discount line went to higher figures this fall than it has ever been. During the past two or three weeks we have purchased a large quantity of outside commercial paper, preparing for the period which is year by year somewhat dull with us—from the 1st of January to the 1st of April.

The National City Bank of New York issues a weekly circular which gives various data relating to financial conditions. In its circular of this week it states that on December 6, 1912, the amount loaned by that bank to merchants and manufacturers not secured by collateral was \$39,140,000. On the 25th of November of this year, as nearly as possible the corresponding date, similar loans to merchants and manufacturers were \$59,000,000, or \$20,000,000 more than they were last year.

I shall not take the time to go into an analysis of this statement, but I will say that it shows that a large percentage of this money is loaned to banks in the country which presumably are not able, from their own resources, to take care of their customers, and therefore are drawing on the city banks or their reserve banks for help.

There is a falling off in business; but I doubt if there is any evidence which will substantiate the claim that it is due to any unreasonable hesitation on the part of the banks. Naturally a good and conservative banker, seeing these unusual conditions, believing there is a falling off in business, and learning from reports that the customer's business has been a poor one during the year and that his quick assets are less than they were a year ago, does advise caution. If he did not advise caution he would be a poor banker, and his stockholders would suffer as a result. But I think there is absolutely no evidence before the Senate that there is any concerted or other effort by the banks to prevent taking care of the business of the country in the best possible manner.

Mr. NELSON. Mr. President—

The PRESIDING OFFICER. Does the Senator from Massachusetts yield to the Senator from Minnesota?

Mr. WEEKS. I do.

Mr. NELSON. I have not so far this week called for a quorum or suggested the absence of a quorum, and I do not do it now for the purpose of delay. Inasmuch, however, as the Senator from Massachusetts is about to discuss the merits of the pending banking and currency legislation, I feel that it is important that as many Senators as possible should be present to hear his statement. Thinking, perhaps, that some Senators may be absent because of the fact that they think the Hetch Hetchy bill or some other matter is under discussion, I suggest the absence of a quorum.

The PRESIDING OFFICER. The Senator from Minnesota suggests the absence of a quorum. The Secretary will call the roll.

The Secretary called the roll, and the following Senators answered to their names:

Ashurst	Gore	Norris	Smoot
Bacon	Gronna	O'Gorman	Stephenson
Brady	Hollis	Overman	Sterling
Brandeggee	Hughes	Owen	Stone
Bristow	James	Page	Sutherland
Bryan	Johnson	Perkins	Swanson
Burton	Jones	Pittman	Thomas
Chamberlain	Kenyon	Pomerene	Thompson
Chilton	Kern	Reed	Thornton
Clapp	La Follette	Robinson	Townsend
Clark, Wyo.	Lane	Saulsbury	Vardaman
Colt	Lewis	Shafroth	Walsh
Cummins	Lippitt	Sheppard	Warren
Dillingham	McCumber	Shively	Weeks
du Pont	McLean	Simmons	Williams
Fletcher	Martin, Va.	Smith, Ariz.	Works
Gallinger	Martine, N. J.	Smith, Ga.	
Goff	Nelson	Smith, Md.	

Mr. SHEPPARD. I wish to announce the unavoidable absence of my colleague [Mr. CULBERSON]. He is paired with the senior Senator from Delaware [Mr. DU PONT].

Mr. KERN. I desire to announce that the senior Senator from South Carolina [Mr. TILLMAN] is detained from the Senate

by reason of illness. I will let this announcement stand for the day.

The PRESIDING OFFICER. Seventy Senators having answered to their names on the call of the roll, a quorum is present. The Senator from Massachusetts will proceed.

Mr. WEEKS. Mr. President, I am well aware that reducing a speech to typewriting does not bring, in its immediate effect, the best results, but the subject I am going to discuss is an extremely comprehensive one. If one attempted to discuss it without very careful preparation, he might ramble over much ground and take much time that would not be justified. Therefore it seemed to me wise and proper on my part to reduce to writing what I propose to say in a general way about some of the features of this particular bill. Later I shall hope to have an opportunity to discuss in some detail some phases which I shall not refer to here.

We are apt to feel that we are the most progressive country in the world and the readiest to adopt new and approved ideas. Yet in our banking legislation and practices and in our currency system we have lagged far behind all first-class nations. Within the last century, and in many cases in the immediate past, European nations and Japan have given their banking and currency systems a thorough overhauling. Some of them have changed two or three times within a comparatively recent period, but they have all reached substantially the same conclusion—in providing a central bank in some form which issues all, or substantially all, the circulating medium of the country in which it is located; which rediscounts commercial paper under suitable conditions; finances the Government which gives it corporate existence; and in many other ways the plans are so similar that we may conclude that the technical and banking experience of the world has now reached the best obtainable methods. Our course has been different. Since the second United States Bank went out of existence, 80 years ago, the only changes we have made in either banking or currency legislation have been the result of some unusual pressure. The national-bank act was a war measure, resulting from conditions which existed at that time. The resumption of specie payment necessitated a long struggle and was an inheritance from the Civil War. The gold act of 1900 resulted from the campaign of 1896, which followed the panic and troubles of that period. The emergency act of 1908, known as the Aldrich-Vreeland Act, was forced by the panic of 1907. So that it may be truly said we have taken no advanced step relating to either our banking or currency systems which has not been forced by some unusual condition existing at the time. That does not mean that what has been done has not responded reasonably well to conditions as they then existed. In fact, in normal times our currency system has been efficient and our banking methods have in many respects responded to the needs of the country, and we have been especially wise in maintaining our independent banking system. But we have been sadly lacking in some essentials, and especially in having a system which would respond effectively in times of stress. Briefly, the weaknesses in our system have been lack of coordination, inelasticity of our currency, and improper methods of treating our reserves. If we did not have a banking system, or could clear the slate and start anew, knowing the results which have been obtained elsewhere and taking advantage of the experience of those who have been experimenting in other countries, we could undoubtedly inaugurate a more perfect system than we have or are likely to get under present conditions. In making changes we must remember that the customs and practices of people must be respected and given consideration; that those parts of our system that have given good results should be preserved. It is not a question which should be taken up hastily or inadvisedly, but it should have the best thought of the best minds in our country.

We are in the position of the owner of an archaic building which when constructed amply satisfied all requirements, but changes in conditions necessitated its being pulled down and a modern construction erected in its place. This is not ordinarily a difficult operation. The owner employs a qualified architect; responsible constructors are engaged and the work goes on satisfactorily because there is sufficient data on which to base such an operation. But we have even a more difficult problem than that, because it is necessary for us to partially pull down the old structure and erect a new one without in any way stopping the operations which are being carried on within the structure. One of the greatest engineering feats, in my opinion, of our time has been the demolishing of the Grand Central Station in New York and erecting in its place the splendid structure which is now nearing completion. In that case if the engineers could have pulled down, cleared the ground, and commenced to build without other complications it would not have been unusual or

difficult. But it has been necessary to do this work without disturbing the operations of a great railway system, including the bringing in and sending out of almost hundreds of trains daily. To do this without complicating or interfering with the scheduled operations of the road is, it seems to me, a wonderful accomplishment. I am informed that not a single person has been killed during this operation. We must pull down some parts of our present banking and currency system in erecting the new, and it is essential that this be done without interfering with business or causing any jar in the delicate functions with which we are dealing. It seems to me that the Hitchcock committee has come as near to accomplishing this, or in arranging a plan which will accomplish it, as is possible; and that a careful scrutiny of the bill will demonstrate the care which has been taken in this respect.

There has been no reason for haste in passing this legislation. For many years almost everybody has recognized that there were ample reasons why changes should be made. It has been frequently discussed in and out of Congress. The agitation in connection with the passage of the Aldrich-Vreeland legislation in 1908 and the work of the Monetary Commission have added to the interest and knowledge in this subject. I am not going to take the time of the Senate to discuss the report of the Monetary Commission except to say that, whether one agrees with the conclusions of the commission or not, it must be admitted that the agitation and education and information which went with its report and consideration, including the public discussions which took place at that time, have had a marked influence in focusing public attention on this important question.

Last spring financial conditions in the United States looked troublesome. There was not an abnormal business or an abnormal demand for money, and yet the bank loans were well up to a point where it was a certainty that any further demand for accommodation would precipitate pretty uncomfortable times, if not a panic, and several times during the summer there were evidences of possible trouble, but these evidences were sufficient to insure a cautious policy on the part of banks, and this, with the gradual slackening of business which has been going on during the fall months, has left the banks of the country in much better condition. It has been perfectly apparent to anyone familiar with the course of business and banking arrangements that, notwithstanding the unusual demands for currency and credit which come in the fall months, there is not likely to be any difficulty and that we will go over the crop-moving period without any serious trouble.

I am not disposed to take from the House Committee on Banking and Currency, or from the House itself, or others who had to do with the banking and currency bill as it came to the Senate, such credit as is due them for having gotten together a measure which contains many sound and wise provisions, and yet the bill at that time was far from what it should be, and a majority at least of the Senate committee believed that this was the time when we should get the best legislation possible. It is an intricate and to many an uninteresting study, and it can not be expected that when men who have devoted their lives to it are uncertain about the course which should be followed in some particulars that men who have given the subject no study should hesitate about taking the time to inform themselves. Therefore it is not any reflection on the House to say that in the time that that body had the Glass bill before it, considering the amount of discussion which took place, it was simply impossible for Members to have understood the merits of many of the provisions of the bill or that it should have passed under a species of pressure a bill many features of which should be wisely studied and properly amended.

That is exactly what the Senate Committee on Banking and Currency has been doing, has insisted on doing, in fact, notwithstanding the unwise pressure and insistence which has been brought from time to time to urge early legislation. No member of the Senate Banking and Currency Committee would vote for the House bill as it came to the Senate without material amendment, and I believe there is not a Member of the Senate who will not admit that much benefit and knowledge has been obtained by that committee, which is reflected in the two propositions offered for consideration. Either one of them, in my judgment, is materially better than the bill as it came from the House. I think the one to which my name is attached has many features which are superior to those in the other, and yet I can frankly and honestly say to Senators that, in my judgment, there is enough good in this legislation, however much one may dissent from some of its provisions, to warrant its being supported. If this conclusion is sound, the insistence of the Senate Committee on Banking and Currency has not only been justified in getting wiser and better legislation, but there has been no public condition which would have warranted or which necessi-

tated earlier action; indeed, in my judgment, this bill should now be thoroughly and carefully scrutinized, every phase of it should be debated, every doubt in the minds of Senators should be removed, every Senator should listen to the discussion, should ask questions, and should come to a conclusion on the merits of the many propositions involved independent of any fealty for any particular party or loyalty to any provision presented by either of the two factions of the Senate committee, for this legislation may be the basis of our banking and currency systems for hundreds of years.

You will hear complaints that business is falling off, that banks are husbanding their resources, that there is a demand for early legislation; and yet I can say to you that I have not had during the past three months a single communication of any kind, from any source, urging hasty action or criticizing me because I have been one of those who has insisted on the fullest deliberation and consideration. On the other hand I have received or have seen a large number of indications in the press and in personal letters commending the action which the Senate committee was taking. Business is falling off. It is natural that it should. We have been putting into operation a tariff law which, whatever may be its final effect, is sure to be disturbing to some degree. We have an unusually complicated and delicate foreign question in which the country is vitally interested. We have before us prospective corporation legislation which must necessarily be a disturbing feature in our business affairs. Any of these would be sufficient, operating singly, to affect business; operating together, they have been enough to bring about a marked diminution in the volume of trade, and it should not be charged that any delay in passing this bill has been the cause of its falling off, because there is little or no connection between the two.

It is not necessary to attack what has been proposed in the past in the way of banking and currency legislation in order to bring to bear sufficient arguments to warrant action at this time. Everybody whose opinion is of much value admits that we could have a better system than we have at present, and our energies should be used to get the best system obtainable; not to decry any other. I refer to this, because in his opening statement the chairman of the Committee on Banking and Currency took occasion to refer to the plan proposed by the Monetary Commission for the readjustment of our banking and currency system, at which time he repeated a statement which he has frequently made, that the bill was reported to Congress but no attempt was made to get action, although Congress was controlled by the political party which had had a majority of the commission. It is true that the measure was reported in January, 1912, but the Senator from Oklahoma knows perfectly well that it could not have been passed by the Senate at that time, even though there was a nominal Republican majority in this body, and he knows equally well that even if it could have been passed by the Senate that the House was controlled by the Democratic Party and that no bill of that character, which was based on a report made by a commission controlled by the opposite party, could have been gotten through the House of Representatives. Therefore it is idle to talk about no effort having been made to adopt this legislation. None was made because it would have been futile to have undertaken it.

Even now it will be difficult to find a thoroughly posted financial expert in the United States, and certainly not many in Europe, who will not agree that the plan proposed by the Monetary Commission was, in most respects, much superior to any legislation that we are likely to get at this time. I for one believe that to be the case, and yet I have not attempted to inject that particular plan into this consideration, have scrupulously avoided doing so, because I knew it would be without avail; that it would add another complication to a sufficiently trying situation. I am so strongly in favor of doing some of the things which are going to be done by the pending legislation that I do not want to inject any element which is likely to retard or prevent early action.

It should not be forgotten, however, that 6 of the 16 members of the National Monetary Commission were among the leading Democrats in Congress at the time its report was made, including Senator Teller, of Colorado, who was then closing an unusually long and distinguished public career, and who stated in signing this report that he considered it one of the most, if not the most, important acts he had performed. The conclusions reached were the result of four years' study, and one of the greatest compliments to their soundness is the action of the House Banking and Currency Committee in taking bodily many sections and ideas from this report and incorporating them in the bill which we are considering. Too much reliance should not be placed on its having been condemned by the Baltimore convention of last year, for probably not one in a hundred of those who voted

to sustain the resolutions adopted there had ever read the report of the Monetary Commission, and it is well known that all Democratic platforms in recent years have been dominated by one whose financial theories have been unqualifiedly condemned whenever the people have had a chance to pass on them at the polls. Neither was it necessary to inject into this debate any charges against the action of the New York banks in 1907. There is sufficient reason for this legislation without drifting into the realms of fancy for others. In all probability the slurs against the big banks of New York are without a scintilla of reason, for men do not attempt to deliberately injure themselves or their finances unless they are fit subjects for an insane asylum, and they would have been such if they had been responsible for bringing on the conditions that existed in 1907.

Senators are sufficiently familiar with what transpired at that time to know that the panic of that year came about very largely from natural causes which had been accumulating for years and certainly had been apparent to most careful critics for months before the collapse took place. To attack bankers, and especially large bankers, and attempt to create prejudice against them and against their methods by such statements as the chairman of the committee has made is, in my judgment, both unwise and unfair. He will admit, as will every member of the Banking and Currency Committee, that those bankers who appeared before the committee at the hearings which have just terminated presented their evidence with all of the fairness and frankness that characterized other witnesses; that in a sense their testimony was invaluable to the committee, and there was not a syllable of evidence that they were trying to protect themselves or to protect the banking community against the best interests of the country at large.

Let us be fair and sane about these things. Stop this talk tending to prejudice class against class. There are probably just as many patriotic men in one class in proportion to their numbers as in another. When men are wrong or do wrong as individuals they should be punished without regard to their place in society, but to condemn a class or try to create prejudice against a class by making statements which can not be substantiated is fundamentally wrong and does not add anything to the cause which he who makes them is advocating.

It is impossible to consider all of the important provisions in a bill of this character within the time limitations imposed by an address of this kind, or even a considerable part of them, in great detail, so I shall confine myself to a discussion of a few sections. If I have the opportunity, I shall discuss two or three paragraphs more fully when the bill is read for amendments.

At this time I shall confine my comments to the following subjects:

- A reserve bank or banks and reserves.
- Federal reserve board.
- Application of earnings.
- Domestic exchange.
- Rediscounts and circulating notes.
- Bank-accepted bills.
- Who shall subscribe.
- Rate of discount and controlling the gold supply.
- Refunding provisions.
- Foreign branches.

BANK RESERVES.

RESERVE BANK OR BANKS.

One of our great difficulties in the past has been lack of co-ordination among the banks. It is charged that there is such a condition of interlocking directorships and community of interests in banks that it is impossible under some conditions to obtain the credit which is necessary to carry out legitimate business arrangements. There may be instances in which credit has been denied to people for other than sound business reasons, but they are, in my judgment, so few, if they exist at all, that they are negligible. In fact, all testimony available goes to demonstrate the truth not only of this statement but, in addition, that banks are in active, vigorous competition not only in different parts of the country but in nearly every town in all sections where there is more than one bank. It is only when conditions get so strained that there is likely to be a general collapse that banks cooperate through the clearing-house associations. To overcome this condition the reserves of all banks should be made available to help out banks and sections which need assistance at any definite time. It can not be a difficult matter to understand why this is necessary.

Let me illustrate: We have in this country ten millions of men of a military age, who might be considered a military reserve. Without training or cooperation, however, they would be of little value, but if these ten millions were brought together and trained they would become the largest and most effective army the world has ever seen. Take another instance:

Suppose all the reserve water supply of this city, which is now collected in one reservoir so that it is available for fire purposes, should be distributed among the different houses of the city, each house having its proportion of the supply in a cistern attached to it; anyone can see how ineffective such a water supply would be in case of a great fire, while in its present form it answers every purpose of a perfect reserve. There is almost no difference between these two illustrations and the money reserves of the country; and it is the present imperfect disposition of reserves which this bill attempts to correct. Whenever we have gotten into financial troubles in the past, our remedy has been, and it has been the only remedy possible, to curtail credit. Each bank has tried to strengthen itself to enable it to take care of its local demands or the requirements of its customers; therefore it has refused to loan where loans were not absolutely necessary, and has especially urged its customers to restrict their business as far as possible, so that it would not be necessary for them to borrow. What is it necessary to do to correct this condition, so that the surplus resources of all banks shall be available to help out the individual bank or bankers in a particular section whenever they meet unusual strain? In order to determine this it may be necessary to consider in a little more detail what we have done in the past and in what way this policy has failed. Under our present law national banks in sections other than reserve and central reserve cities keep in reserve 15 per cent of their deposits, of which they are required to keep two-fifths in their own vaults; the balance may be deposited in the banks of reserve or central reserve cities. Reserve city banks are required to keep 25 per cent of their deposits in reserve, one-half of which must be cash in their own vaults and the balance may be kept in central reserve city banks. Central reserve city banks are required to keep 25 per cent of their deposits in cash in their own vaults. There are substantial reasons for this arrangement and they all indicate in a way the desirability of a central reserve. As the law was originally passed, there was but one central reserve city—New York. Twenty-five years elapsed before provision was made for additional central reserve cities by allowing cities having more than 200,000 population to become such. Under this proposition Chicago and St. Louis became central reserve cities. It has been the policy of banks in all reserve centers to pay 2 per cent interest on the reserve deposits of other banks. This has led country banks and city reserve banks which have had an option as to whether they would keep in one case three-fifths of their reserves and in the other case one-half of their reserves in other banks, to send them to central reserve cities; and in the final analysis a large percentage of these reserves have found their way into New York banks.

Very largely the reason for these reserves going to New York has been that there is in that city a broad public market in all classes of securities, and it has been possible for the banks to readily obtain demand loans on these securities at a rate which in many cases—in fact, a majority of the time—has enabled them to pay 2 per cent interest on bank deposits and make a profit. When their correspondents have called on them for these deposits the process has been for the New York bank to call demand-collateral loans, and under the methods followed such a loan would be paid the same day. It is well known that this policy has created speculative activities, for when business has been relatively quiet throughout the country, so that banks have not a demand from their own customers for all of their loanable funds, they have not only sent their reserve money to New York, but have loaned other moneys there through the banks or otherwise. In other words, easy money conditions have invariably led to larger deposits in New York, which have tended to increase speculation, and when the retrograde movement has taken place speculative activity has been crippled, frequently bringing about large sales of securities which have attracted the attention of the country, creating uneasiness in the minds of bankers and others, leading to an unusual and unnecessary withdrawal of deposits and reserves from the New York banks, sometimes causing a violent panic, as was the case in 1907. All of this trouble can be avoided or greatly modified as a result of this legislation. What we should aim to do is to get all of the reserves of the country where they will be available in protecting business interests without causing serious trouble in reserve centers. To do this I believe that it would be best to have one reserve bank, into which all reserves other than those held in a bank's own vaults should be deposited, and from which supply assistance could be diverted wherever needed. The Democratic Party has, however, resolved against a single reserve bank, so it may not be possible to limit the number to one; while I believe that any number over one will weaken the system, I am well aware that if the banks to be established are

connected so that the reserves of one may be readily transferred to another, one of the objections to a number will be greatly lessened. There are, however, other objections, which at some other time I shall discuss; but at this time I want to simply emphasize my contention that if a number are to be organized, that number should be as few as possible.

The Hitchcock committee have decided on four, very largely because there are three central reserve cities, and if a reserve bank is established in each one of these, the ordinary course of banking communications will not in any way be disturbed; and it seemed to the committee that one should be established on the Pacific coast to care for the needs of that great and developing section.

In establishing this system we have provided that the reserves to be kept by member banks may be greatly reduced because of the discounting features of the bill, to which I shall refer a little later. Instead of banks in reserve and central reserve cities keeping 25 per cent of their deposits in reserve, we have provided that they may reduce this amount to 15 per cent. This we believe will be amply sufficient. Instead of country banks keeping 15 per cent of their deposits in reserve, we have provided that they shall keep 12 per cent; a part in each case must be kept in the bank's own vaults, a part in the reserve banks, and a third part is left optional with the banker; that the transferral shall be made at the rate of 1 per cent every six months, carrying out our general policy of very gradual changes in establishing the new system. The option as to location of a portion of the reserves is undoubtedly wise, because conditions surrounding member banks are quite different. If a member bank is located in a city where there is a Federal bank or a branch of a Federal bank there is no practical reason why it should keep any considerable part of its reserve in its own vaults. In fact, in my own judgment that element of the question could be left to the judgment of the bankers themselves, because they know how much reserve money they should have on hand to meet their own requirements. In the case of a country bank remote from a reserve center it would be necessary to keep a very much larger part than the amount which we have provided for in the bill. The deposit of the proportion required to be kept in the Federal reserve banks will mean the turning over to these banks in the course of three years of between \$350,000,000 and \$400,000,000, provided all national banks come into the system, and an amount nearly twice that if all State banks and trust companies come into the system. In addition to this fund the reserve banks will have a capital ranging from \$100,000,000 to \$200,000,000, dependent on the number of banks coming in, and the Government will have deposits aggregating about \$200,000,000. So that we shall have a bank with gold resources aggregating somewhere between \$700,000,000 and \$1,500,000,000, being the largest aggregation of gold in the world. Through this enormous reserve supply of gold we should be able to provide for the business needs of every section of the country.

I have suggested that there was only one investment which could be made by reserve banks under present conditions for which there is a possibility of obtaining an immediate payment. Under the new system we have provided that reserve banks shall rediscount for member banks commercial paper of a qualified character up to a limit dependent on the capital of the bank, and in that way at any time a bank may build up its reserves. By this transaction the reserve bank will obtain a short-time investment which will assist in enabling it to earn a reasonable return on its capital. In this respect the Hitchcock plan differs from the House bill or the Owen plan in that it compels reserve banks to rediscount for other banks having a suitable reserve and qualified paper up to the limit imposed in the law. In my judgment this is as it should be. Otherwise there is going to be constant friction and charges of favoritism in the relations between the reserve banks and member banks.

I think there is no danger in adopting this policy. Furthermore, I believe that the same rate of discount should be made by all of the reserve banks, for it will be remembered that only paper of a restricted class can be rediscounted, and I feel that it is unwise to allow a Government bank to rediscount for a borrower in New York, for instance, at a lower rate than another Government bank will rediscount for a borrower in Kansas. It must be remembered that the only borrowers are the member banks, that the reserve board and the reserve banks have full knowledge of the financial condition of the member banks, and that any other policy than making the same rate of interest by the reserve banks means that we are not establishing a national system but a local system, and that borrowers in one locality are being given an advantage over borrowers in another locality. It goes without saying that if we were authorizing one bank this question would not trouble us, for it would not charge different rates to its customers borrowing

at the same time. It must not be forgotten that in this class of borrowing—I am referring to the borrowing of member banks, not the borrowing of individuals—it will be claimed that individuals can borrow cheaper in the older sections of the country than in the developing sections. At this time that statement is correct, and undoubtedly to some degree it will continue to be true.

But making the same rate of interest for first-class paper at Federal banks will unquestionably reduce the rate which the borrower will have to pay to member banks in the newer sections of the country, bringing the rate down to substantially the level paid in other sections. This process will encourage borrowers to make a class of paper which can be rediscounted and will be of material assistance in making available the resources of developing sections.

The question has frequently been asked why banks, especially reserve city banks, are willing to accept this change, for presumably they will lose a large percentage of their total deposits. The answer is not a difficult one. In the first place, they will only keep 15 per cent of their deposits in reserve instead of 25 per cent as at present; the 10 per cent will be available to loan on commercial paper which commands a higher average rate than could be obtained on notes with collateral security. A record kept by one of the large New York banks for five years developed the fact that its stock-exchange loans had averaged 2.98 per cent interest. On these deposits it was paying 2 per cent. It was necessary to keep 25 per cent in reserve, so that the actual cost of the loanable money was 2.66 per cent, or a net return on these loans of thirty-two one-hundredths of 1 per cent, out of which it must take the cost of conducting the business, including the proportional part of overhead expenses. When the reserve banks are relieved from the necessity of caring for the interests of their bank depositors it will be possible for them to go into local communities and take part in the banking requirements of those communities, as far as deposits and borrowings are concerned, in the same manner in which they would do such business in the locality where they are located. This will bring additional commercial deposits to the large city banks, which will loan direct to such depositors where in the past they have been forced to buy the paper of such borrowers or loan to the local bank, insuring a somewhat higher rate of interest and the benefits of an active deposit account.

The joint-stock banks of Europe average to make larger net returns than our banks doing a similar business of equal capital and resources, although the average rate for commercial paper in Europe is frequently 1 per cent lower than in this country. I believe that the general system which this bill provides will reduce interest rates throughout the country—those in the newer sections to a greater extent than the older sections—and that this reduction will not only be made without impairing the prosperity of the banks but will, on the whole, increase the net returns on banking capital.

CHARACTER AND EXPERIENCE OF THE RESERVE BOARD.

One of the most urgent criticisms made by bankers to the bill as it came to the Senate was against the political character of the reserve board, and it is now urged by those who have not followed the discussions that this is a vital objection to the pending bill. The personality of this board as the bill came to the Senate was distinctly political. It provided for seven members, three of whom should be the Secretary of the Treasury, the Secretary of Agriculture, and the Comptroller of the Currency. In other words, three-sevenths of the members were to be a part of the prevailing administration without any certainty that they would continue in office any definite time. Even assuming that all of these officers served a full term of four years they would hardly have the time to devote to this service and become familiar with the important questions which must necessarily come before such a board. As a matter of fact, however, they are or should be busy in administering the affairs of their departments or bureaus and the committee has acted wisely in eliminating the Secretary of Agriculture and the Comptroller of the Currency from the board.

I ought to say here and now, as to many of the features which I am discussing in reports which have been made there is substantially no difference, the members of the committee being in entire agreement; but I am giving the reasons why I think these propositions should be adopted and why they should have been made different from the provisions of the House bill.

The Secretary of the Treasury might also have been eliminated without, in my judgment, lessening the board's efficiency, but there are reasons applying to his retention which do not in the same degree apply to the other two. His duties have largely been along the lines of the work of the proposed reserve banks and of the

reserve board. Some of his duties may be materially lessened because of this change in system; and as he is the direct representative of the Government in connection with fiscal affairs, there is, I believe, sufficient reason why he should be included in the board's membership. Therefore now, instead of having three out of seven Government officials, we have by increasing the board to nine, one out of nine a Government official. The other eight have been provided for with the injunction that they shall be, as far as possible, selected from those experienced in commerce and banking. They should not be selected because they are Democrats or Republicans or belong to any other political party, but because they are the most experienced men who can be found to fill these positions.

No one has contended in any bill under any conditions that bankers actively connected with the management of joint stock banks which are to be member banks should at the same time become directors or managers of a central bank or any reserve board. The difference of opinion between those who demand Government control rather than private control is more technical than real. No one has ever questioned the right or the duty of the Government to supervise the issuing of circulation; to provide against the possibility of counterfeiting; to see that paper of proper quality is provided; that circulation is issued in denominations suitable for the business community; that it should provide and control the mint, and should supervise the organization and methods of banks chartered under the Federal law and which are fiscal agents of the Government itself. It has been doing these things for many years and without complaint or criticism, and there is no desire on the part of anyone to materially or even relatively change such conditions; but what the public desires in the appointment of the reserve board and directors of reserve banks is technical knowledge, business experience, and personal character and integrity. The fear has been, and the fear will be until these positions have been filled, that there will be a great pressure for the places and that at best the appointing and confirming power may accept men of high character, but inexperienced in the technicalities and practices with which they have to deal. My own judgment is that there is much more danger to be apprehended resulting from the ignorance and inexperience of the appointees than from any other cause, and it is the purpose of the framers of the Hitchcock bill that only those who are experienced in commercial and banking affairs shall be given places on these boards. They should be men who have shown their worth in other fields and yet young and vigorous enough to take up the active work connected with this great undertaking. They should know general business methods, be familiar with broader questions relating to international trade, have had experience wherever possible in actual banking, and should be men as representative and of general recognized capacity in the business world as are appointees to the Supreme Court in the legal world. Only such men should be appointed to the reserve board, and if others are appointed the Senate should refuse to confirm them.

It almost goes without saying that these appointees should be absolutely free from private business and banking connections. What we want to prevent is the possibility of conflicting private with public interests, hence the provision that no man owning stock or holding a position as an officer in any banking institution shall be appointed to the reserve board; that provision might well have been extended to active connection with any business, because all of the time of the members of the board should be devoted to their public duties. Generally speaking, it is as essential to have banking experience on the reserve board as it is to have medical experience on a board of health or legal knowledge in an appointee to a judgeship.

If we have members of the reserve board suitably qualified, as I have indicated, it will not make any difference whether they are appointed by the President or elected by the banks; they are not in those positions to represent the banks or any other than the public interest.

APPLICATION OF EARNINGS.

It is difficult to estimate the earnings of the reserve banks when in full operation, for they will depend largely on the number of banks. If we are to provide for 8, 10, 12 or more and the banks are to be limited in their investments to the terms provided in the pending bills, there is almost a certainty, in my judgment, that some of them will not be profitable. If, on the other hand, the number of banks is limited to four, they will represent such a large constituency, such diverse interests, and will be able to protect themselves from time to time so that they can provide for these interests and at the same time make considerable surplus earnings.

The Hitchcock bill provides that 5 per cent shall be paid on the capital stock. This, I think, is amply sufficient considering

the fact that the dividend is cumulative and that the stock is not subject to taxation, either National, State, or municipal. It provides for the building up of a surplus of 20 per cent, which is wise, because if the bank makes a loss, which it should not do in many cases at least, there will be a fund against which the loss can be charged provided the earnings for that year are not sufficient to cover it.

The Hitchcock bill provides that excess earnings over and above its dividend, the operating expenses of the banks, and the proportion which will be set aside each year for the surplus fund, shall be divided between an insurance fund and the payment of the national debt; in other words, to the payment of the 2 per cent bonds. I am personally opposed to that provision which applies to the providing of an insurance fund. At this time I want to say that it is as legitimate a commercial function to insure a deposit in a bank as to issue any other form of insurance, but the rate of such insurance should be based on the character of the risk, as is all other insurance. The fund which will be provided in this case, whatever may be the regulations or arrangements made by the reserve board, is to apply to insuring the deposits in all member banks. Fundamentally that is wrong, and can not be made right by any course of reasoning. To take from a fund provided in this way moneys which really should go to the Government and insure all classes of deposits in all kinds of banks is simply saying to the average depositor; "Place your money where you can get the largest return on it and we will see that you make no loss."

It is legislating and providing against the folly of the unwise. It is placing a premium on careless and unskillful banking. It encourages the withdrawal of funds from conservatively managed banks where unreasonable rates of interest will not be paid and transferring them to banks which will pay higher rates of interest than conservative management warrants. It makes the same provision for the savings depositors that it does for the protection of the extremely prosperous who do not need protection. It does not in other ways differentiate between the character of deposits or the responsibility of depositors.

Later, when the bill is read, if I have the opportunity, I shall make further protest against undertaking such a policy. The balance of the net earnings of the reserve banks are to be applied to the payment of the Government's debt. I am entirely in sympathy with this proposition. For many years the sinking-fund provisions required by law have not been in operation, largely, I presume, because of the necessity of keeping outstanding the present national debt to furnish a basis for our circulating medium. In the future there is going to be no such necessity, and the wisest business policy which this country can adopt is to proceed to pay its national debt. Those of us who live in metropolitan districts are familiar with the fact that municipal indebtedness is increasing at leaps and bounds, and States are commencing to increase their indebtedness for various popular and some wise reasons. Nothing would make this Government as strong at home or abroad as to have it entirely without indebtedness and then institute and stick to a policy of paying as we go. Not only is this morally and financially right, but it is right from a military standpoint. Whether nations go to war in future is going to depend very largely on their financial resources. The fear of war is necessitating the maintenance of enormous and expensive military establishments, and yet no nation can undertake a war of considerable importance without being able to finance itself; and we would be in a doubly strong position if we were not only able to provide for our own needs but in many cases were able to prevent other nations engaging in warfare from the moral influence which would come from our great financial strength. It would be worth, in my judgment, many battleships to be sure that when the time of strain came we could provide unlimited funds for carrying on any necessary war.

Therefore, not only should this fund be set aside for the purpose provided in this bill, but other means should be found, such as using the entire surplus at the end of any fiscal year to gradually and rapidly reduce our debt. I wish it were possible to lay a special tax for such a purpose, and I am sure that it would be a popular and wise tax if the people of the country were assured that it meant the end of national indebtedness, except what may be incurred as a result of some most unusual trouble.

COLLECTIONS AND DOMESTIC EXCHANGE.

As I have indicated, when banks are driven to cooperate on account of panicky conditions they do so through clearing-house associations, which provide a means for paying balances at clearing by using clearing-house certificates instead of gold or lawful money. These clearing-house certificates are based on collateral, ordinarily 75 per cent of the value of the security

being issued in a certificate, and they carry with them a guaranty of all the banks belonging to the association issuing them. Generally speaking, they have only been used to pay balances at clearing—that is, between banks—although in the panic of 1907 this course was materially deviated from in some sections. While the issuing of these certificates relieves the local situation, it has the effect of breaking down domestic exchange, which practically strangles business throughout the country.

For instance, during 1907, when the situation in the large centers had commenced to feel relief, the distress in many respects was added to by the inability of country banks to furnish their customers with New York or other reserve city exchange; so that if a purchaser in Texas had a bill to pay in Pennsylvania, instead of sending Philadelphia or Pittsburgh exchange he would forward his own check, which in the ordinary course would be returned to the bank on which it was drawn for collection. That bank would notify its Pennsylvania correspondent that it could not furnish exchange but would give the Pennsylvania bank credit for the amount of the check, to be remitted for later. The Pennsylvania seller of the goods may have needed that money in his business, but as his bank had not really received a return for the check, the bank in many cases was forced to make loans which further crippled its resources, and this condition throughout the country paralyzed trade so that we had long months of stagnation and extremely slow recuperation. This is the experience we have always had in the past under similar conditions.

Undoubtedly this particular phase of domestic exchange will be entirely remedied by the provisions of this bill, but I wish particularly to speak of the paragraph in the House bill which provides that checks and drafts on reserve banks and member banks shall be collected at par by reserve banks. This provision would in effect have taken from the banks of the country the collection and exchange business and would have imposed a burden on the reserve banks sufficiently large so that it would not have been necessary to have discussed the manner of disposing of surplus earnings.

The collection and exchange business of the country is enormous, its volume being little appreciated by those who have not had occasion to look into it. In reserve banks frequently 40 per cent of the force is employed in connection with this service. In many sections of the country—in fact, in all sections of the country—it is so conducted that it brings a profit to the bank. There was testimony submitted to our committee which indicated that in some sections a large percentage of the net earnings of the bank resulted from this branch of the business, in one case as much as 40 per cent of the net earnings being obtained from this source.

Furthermore, business has been conducted through the present channels so that the proposed change would have been extremely disrupting and might have brought about a serious stagnation. There is no reason to doubt that improvements can be made in the collection business. Frequently checks are not sent through the most direct channels, but are sent to the point where they are made by indirect ways on account of the desire of the sending bank to favor those banks which have good accounts with it. For this reason it often happens that collections take a day or more longer than they should.

Furthermore, I believe the evidence before the committee indicated that larger charges were being made in some sections of the country for this service than its character warranted; in other words, banks were imposing excessive charges on the local community. We have provided in the Hitchcock bill that under conditions which the reserve board may impose, which means rates, and so forth, that collection and exchange business may be conducted through the reserve banks, but it is intended that these charges shall be such that it will not destroy the business of independent banks; that in a way it will be a check on their manner of conducting the business and the charges which they will impose. My own judgment is that if all collections were made through reserve banks, making them substantially clearing houses, that it would eventually mean a saving to the commercial community; but to institute that policy at this time would be dangerous in its abruptness and would take from organized banks a business to which they are properly entitled if they conduct it expeditiously and impose reasonable charges. Further, by adopting the House provision we would very likely have driven from the national banking system a large percentage of the country national banks, and it should be the policy of this legislation, within reason, to impose such conditions that other banks will come into the system rather than to drive national banks out of it.

CIRCULATION.

There seems to be great confusion in the minds of most people as to the difference between money and a circulating medium.

Even those in high official position and in many cases those who have been considering the general question of banking and currency for years fail to differentiate between the two. For example, the Secretary of State is quoted as having said: "The plan which the President now urges confers great advantages upon banks, while it preserves to the people, acting through the Government, all that is essential for the protection of the public. The notes are to be Treasury notes issued by the Government and loaned to the regional reserve banks. This is in harmony with the Democratic contention. There is no surrender of the Government's right to issue money." Money is a measure of value and a medium of exchange, and nothing which is not a measure of value can be money. No one now or at any other time has denied the Government's right to issue or rather to coin money. This function is provided for in the Constitution in the following terms:

To coin money, regulate the value thereof, and of foreign coin, and fix the standard of weights and measures.

Congress has exercised this authorization by making our standard gold, a unit of which, the dollar, shall contain 25.8 grains, and we coin under this standard gold into coins having a value of \$2.50, \$5, \$10, and \$20. This is all the money we have in the United States. Our other forms of circulating medium are not money, because they are not self-redemptive. Gold certificates are issued simply for convenience. They are a warehouse receipt in effect, representing an equal amount of gold coin or gold bullion held by the Government. They would never be used if it were not more convenient to carry a piece of paper than a piece of metal, and they are not money, because they must be redeemed by the gold against which they are issued. Neither are greenbacks money; they are given a legal-tender value by an act of Congress, but they simply represent the Government's promise to pay, and they would not be of any value if it were not for the solvency of this promise, which solvency is measured by the certainty of redemption in the only standard we have; that is, in gold. And in order to insure this certainty, in passing the gold act of 1900 \$150,000,000 of gold was segregated, forming a redemption fund against the \$346,000,000 of outstanding greenbacks. Neither are silver and silver certificates money. They are in effect the "till money," or the loose change of the American people. Silver certificates are issued for exactly the same purpose as gold certificates, because it is more convenient to carry paper than metal, but their value depends upon the fact that they can be taken to the Treasury for redemption, where for each certificate an equivalent in silver dollars will be found in storage. But silver is not a standard of value, and its coinage has been stopped by law; moreover, the silver in a silver dollar is not worth a dollar, as fixed by our national standard; therefore if it did not have the stamp of the Government, which in effect provides that a silver dollar can be redeemed in gold notwithstanding the intrinsic value of the metal in it, it would not pass as a dollar. Neither are bank notes money; they are the notes of national banks issued against a like amount of the indebtedness of the United States held as security by the Government. None of these forms of circulation are their own redeemer, and most of their value is derived from the fact that they may be redeemed in gold on presentation. Gold itself is its own redeemer, because it does not make any difference whether the gold is in the shape of a coin carrying the Government's stamp or in bullion form. It is worth as much in one shape as the other.

One of the most difficult propositions with which we have had to deal has been the refunding of the 2 per cent bonds. These bonds have been sold to the national banks and used as a basis for circulation, the selling price being maintained at above par until very recently because they carried with them the circulation privilege. We have a conglomerate currency system consisting of about \$1,700,000,000 of gold and gold certificates; about \$550,000,000 of silver and silver certificates; \$346,000,000 of greenbacks; and about \$740,000,000 of national-bank notes, a total of something less than \$3,500,000,000, and it is the character of this circulation which has produced one of our greatest troubles in that it did not have elastic properties and that it did not respond promptly to the needs of trade. A correct monetary system would provide a circulation absolutely responsive to trade demands, which could be readily redeemed when the necessity for its use had expired. This would mean a bank-note circulation based on the individual requirements of the banks' customers, with such provision made for redemption as would insure its certain withdrawal when the transaction for which it was issued had been closed. I shall discuss later this question more in detail, but it will be sufficient for me to say at this time that I am for many reasons opposed to the Government issuing the notes which this bill provides for, the most practical ones being that it is entirely unnecessary and that it

is technically incorrect. I ought to say, however, that, in my judgment, the security of note issues has never been more carefully provided for than in these bills, and whether issued as a Treasury note or a bank note is immaterial as far as the quality of the circulation is concerned.

To go back, however, to our currency needs. There is no elasticity in metallic money. We coin gold which is brought in for that purpose, so there is a gradual increase in our gold circulation. Silver coinage has been stopped by law and the issue of greenbacks is limited to \$346,000,000. Therefore the only circulation which we have which has any element of elasticity—that is, which may be retired in case it is not needed—is our national bank note circulation. But the low rate of interest carried by the bonds securing this circulation has prevented their finding a market except for circulation purposes, so that if banks found more circulation outstanding than necessary they have been unable to retire it because they could not find a market for their bonds. Therefore, as far as technically correct circulation is concerned, we have been unprovided, and this bill, in whatever form it is passed, will be an improvement in that respect.

The Hitchcock committee has provided that there shall be a reserve of 45 per cent in gold, held by the reserve bank, against this circulation, while the other plans provide 10 and 11½ per cent less gold reserve. The Hitchcock plan provides that in addition to the gold reserve either commercial paper or refunding notes, or both, equal to the face of the circulation emitted shall be segregated to secure it. The provision as to reserves in the Hitchcock plan is made sufficiently elastic to meet unusual conditions. To establish a reserve with a fixed limit is simply going to perpetuate one of the worst elements in our present system. To change this we have provided that a tax shall be imposed against the issue of notes when the reserve is below the legal limit; that is, if it decreases to 42½ per cent, a tax of 1 per cent on circulation shall be imposed; if the reserve decreases to 40 per cent, a tax of 2 per cent shall be imposed; and that a similar tax shall be imposed down to a reserve of 30 per cent. So that, if the reserves reach that limit, in addition to the original rate of discount which will be charged by the bank, a tax of 6 per cent would be added. This tax is to be paid by the member banks in proportion to their rediscounts during that fiscal year. This is not strictly equitable, and yet it is the best adjustment that can be provided, as it compels the banks which are the beneficiaries of the system to pay the tax which unusual business conditions may necessitate.

As provided in the House bill, the elasticity of the currency would amount to an emergency currency not greatly differing from that provided in the Aldrich-Vreeland bill. My own judgment is that there is a redundancy of currency three-fourths of the year, and I base this conclusion on the fact that there is a constant stream of bond-secured circulation coming into the reserve centers and then being sent to the department for redemption. It is not retired, because the banks do not want to take chances in selling their bonds, even if they can find a market for them. Therefore it is sent out again to the banks originally issuing it, thus completing an endless chain. The 5 per cent fund which the law requires for redemption is frequently overdrawn. At the present time it is in that condition, and there are numerous cases of bundles of new bills which have been sent to banks in the country not requiring them, sent by those banks to their reserve agents to increase their reserves, the reserve agent, having no use for them, sending them in for redemption, and they come back to the Treasury in exactly the same condition they left it, the bundle never having been opened.

Of course it is not undesirable that there should be frequent redemption; that is what makes an elastic currency. In Canada, where the banks issue the circulation, it stays out, on an average, 29 days, and it must be remembered that Canada is a very large country territorially, so that if it were more compact quite likely the time which the circulation would remain outstanding would be even less. Their banks, receiving on deposit circulation issued by other banks, turn it in for redemption if it is profitable to issue circulation, emitting their own in its place. If, however, issuing circulation is not profitable, they pay out the notes of other banks. We are providing in our bill that these notes can not be used as reserves and that a bank receiving notes emitted by another bank shall send them in for redemption, under a severe penalty for not doing so. In my judgment, this will produce frequent redemptions and will make the circulation truly responsive to business demands. If, however, we were to continue the bond-secured circulation as at present and provide for the issuing of additional circulation of a different kind, it may be that the additional circulation would be put out as a result of an emergency and we would not, under ordinary conditions, have any of it in circulation. A

bank issuing circulation against a 2 per cent bond makes a net profit of 3.18 per cent if it can loan its funds at 5 per cent. So it would be more profitable in ordinary times to hold 2 per cent bonds and issue circulation against them than it would be to change these 2 per cent bonds into threes not having the circulation privilege. Therefore we may presume that the banks, if they were assured that their twos could be sold at par, would not retire their circulation, so that the refunding of the 2 per cent bonds, as proposed in the House bill, into threes would cost the Government directly \$7,500,000 a year and indirectly 40 per cent of that, as 60 per cent of the profits of the banks is to go to the Government under the House bill. Under our plan of refunding fifty millions annually the process is so gradual that there can not be a jar; and as all the excess profits over 5 per cent are to go to the Government for some purpose it does not lose anything to refund the present twos into threes. Then, again, the House bill and the bill signed by Senator OWEN and his colleagues provide that these notes may be used for reserves under certain conditions. Nothing, in my judgment, could be a more unwise policy, for if they could be used as a reserve they would not come in promptly for redemption, so they would lose their elastic quality. Gold certificates, however, should be used as reserve, because they are really a representative of an equivalent amount of gold in the Treasury. Furthermore, if this were done, it would prevent the otherwise necessary shipment of gold back and forth between reserve banks, with the losses incurred in so doing, for the gold certificates could be shipped more economically and safely.

If we were to have a real elastic currency we would permit the banks to issue the circulation without the Government's guaranty. In my judgment, the Government guaranty is not needed to make the proposed currency perfectly safe. I do not recall any circulation which has as many safeguards. Moreover, there is no difference between a bank deposit and a bank note, except in form. Let us assume that a borrower makes a loan of \$10,000. He may take the proceeds of this loan in different forms, and it is immaterial to the bank in what form he takes it, except that if he leaves it on deposit, or any part of it, the bank adds to its deposits by that amount. In any case, whether the bank credits his account with the \$10,000 or gives him a draft on some other point for the same amount, or gives him its own notes for the same amount, it is in every instance an obligation of the bank. If it remains on deposit and is drawn out gradually by checking against it, all the balance that stands as a deposit is an obligation of the bank. Of course, that is the best condition from the bank's standpoint, because it has the use of such balance as has not been checked out. On the other hand, the bank may give the borrower a New York draft for the whole \$10,000; that check is the obligation of the bank, which, after going through one or more hands, finally reaches the New York bank, which is its correspondent, when it is charged against the issuing bank. On the other hand, the bank might pay the borrower in its own notes. These would go from hand to hand, but finally they would come back to the bank, its branch, or to the Treasury for redemption.

BANK ACCEPTED BILLS.

I wish to call particular attention to one of the provisions in this bill which will change our banking policy greatly to the advantage of the average business man. At present the ordinary method of borrowing money is on a note made for different periods, from 30 days to 6 months, by the corporation or concern which needs temporary accommodation. This note generally is discounted in the bank with which the borrower does business. If, however, his credit is sufficient and the necessities for accommodation are greater than his own bank can supply, he borrows from other banks, very frequently through brokers, who carry on a special business for that purpose, and it is this class of borrowing which extends the credit of the borrower beyond his own bank. There is, however, a limit to the amount which can be borrowed in this way, and the method is limited to this country. Generally speaking, when such a note is discounted it becomes a dead asset, unavailable for any credit or other purpose until it has matured. The result is that all commercial banks have great quantities of this paper which can not be used even in case of necessity, because offering it for rediscount would immediately place the bank itself under suspicion, and because it would place the borrower under suspicion. In other words, doing this is contrary to our established practice.

Europe long ago adopted a different policy. It is a common practice in all first-class countries to not only indorse short-time paper under certain conditions, but to accept from borrowers short-time bills. The method followed in this latter process is substantially this: Assume that a borrower has used all the credit which his own bank can give him under the law or that

this bank has not available funds to loan; yet he needs additional accommodation, and his bank is willing to assist him to obtain it. In such a case he draws on his own bank for 30 or 60 days, or some other short time, and the bank accepts the draft. In doing this the bank might require security in some form, this being dependent on the credit of the borrower, charging for its service such commission as conditions warrant; but it does not put out any of its own money in so doing; it simply loans its name to add to the borrowing capacity of its customers. Such a bill, having a well-known name attached as drawer and accepted by a well-known bank, becomes immediately a bill of exchange, which is readily salable anywhere in the neighborhood where both borrower and bank are known; and if they are sufficiently well known it would sell anywhere in the country where the transaction is consummated; or they might be sufficiently well known so that it would sell in other countries. In fact, large quantities of such paper made in European countries are sold in other European countries, thereby extending the credit of the borrower, enabling him to meet all of his business requirements readily, and almost necessarily enabling him to borrow at a lower rate of interest than he otherwise could do. The banks of one country owning paper of this class made in another country enables them to pay their debts by shipping the paper home instead of shipping gold, as they might, under other circumstances, find it necessary to do. The central banks in European countries buy freely paper of this kind made in other countries, frequently, however, requiring the indorsement of an additional bank or banks from whom the purchase is made. That should be the policy of our reserve banks. When conditions and money are easy in this country, instead of trying to compete in the local money market to add somewhat to the bank's profits they should invest their money in foreign bills and in short-time bonds, as provided in the law, so that when conditions change, as they are sure to do sooner or later, it will not only have short-time public funds which can be disposed of, but it will have foreign bills which can be sent back to the country making them in lieu of paying our debts in gold. It will be in this way, quite as much as raising the discount rate, that banks will be able to control our gold supply. To-day there is no means of doing this except by the spasmodic action of individual banks, and there are now no bills in this country except exchange drawn against shipments of products and finance bills, which can be used for such a purpose. When we have a balance of trade against us, we must sooner or later pay our debt, but we can put off the evil day until the balance of trade can be paid not in gold but in our having something which we can sell which will give us a credit abroad. The bills and securities provided for in this bill will be a new and reliable means to be used for that purpose.

SUBSCRIBERS TO THE STOCK.

There is a radical difference in the propositions presented by the House bill, the Owen bill, and the Hitchcock bill as to who shall subscribe for and own the stock of the reserve banks. It is agreed that this stock shall be issued under such conditions that it can not be owned or controlled by any man or set of men, and therefore in the first two plans it is stipulated that the holdings shall be limited to a percentage of the capital or capital and surplus of the member banks, while in the Hitchcock plan it is proposed that no individual shall subscribe or own more than 100 shares. The radical difference is that the first two plans provide that the banks shall subscribe for and shall hold this stock as permanent assets conditioned on their continuing as members of the reserve association, while the Hitchcock plan proposes to sell to the public, through the national banks as fiscal agents, these shares, each bank making itself responsible for an amount equal to 6 per cent of its capital and surplus.

One of the most insistent criticisms which the banks have made to this legislation has been that it was unreasonable to require them to subscribe and tie up 20 per cent of their capital in this way. To be sure, the House bill only required that one-half of this should be paid in, the balance to be callable on demand; but in many sections, especially where deposits are not large, the bank's capital is an important element in providing for the requirements of the community; taking 10 per cent of this capital out of local business really meant a material hardship. Those with whom I have been associated on the Banking and Currency Committee see no reason why this stock should not be held by the public instead of imposing it on the banks, provided proper limitations are placed as to the character of the holdings as has been done in our bill; in fact, we are convinced that the public will eagerly subscribe for the stock, as it will pay 5 per cent, which is cumulative, is not subject to taxation, and does not carry any liability or responsibility, voting or otherwise; that we will, in effect, have \$100,000,000 of

banking capital added to the present bank capital of the country instead of diverting \$100,000,000 of the present capital of the banks into a fixed and immovable investment.

This will not only relieve the member banks, but it does not change their relation with the reserve banks, because they are to deposit their reserves with reserve banks in a manner similar to that provided for in the House bill, and as the reserves will equal about four times the proposed capital, it only reduces by one-fifth the interest which the banks will have in the reserve banks, but the reserves which will be transferred to the reserve banks are now kept in other banks, so that it does not change the capacity that banks will have to care for local requirements.

Furthermore, we believe that it is wise to financially interest as many citizens as possible in governmental affairs. That principle was followed in framing the postal savings bank law, by providing that bonds of a \$20 denomination and multiples thereof should be issued to the depositors in postal savings banks, and gradually bonds of this character are being subscribed for by such depositors.

The French debt is very largely held by small investors in France, and the more generally we can distribute our Government indebtedness or such semi-Government securities as are provided in the stock of the reserve banks the stronger and safer, in my judgment, will be the Government itself.

The Owen plan proposes a payment of 6 per cent dividend on this stock, which under that plan is to be held by the banks. That in itself would require \$1,000,000 a year dividend payment in addition to what the Hitchcock bill provides for. This \$1,000,000 in our plan would revert to the Government, so that the Government would be that much better off under the Hitchcock than under the Owen plan, even if there were not other substantial reasons for making the change. We must not lose sight of the fact that in order to make this plan successful it will be necessary to have the cooperation of the banks, and by removing such objections as the banks have offered, and especially when the objection can be removed by providing a better method of procedure, we should certainly not fail to make the change.

Mr. REED. Mr. President, I think the Senator, in the interest of accuracy, will want to change his figures as to the amount of difference in dividends to be paid under the 6 per cent plan of the Owen bill and the 5 per cent plan of the Hitchcock bill. He has overlooked the fact that the Hitchcock bill requires a capital of \$106,000,000, or approximately that, while the Owen bill requires a capital of \$53,000,000, or approximately that. So the real difference in the dividends, instead of being a million dollars, as stated, would be approximately \$500,000.

I think the Senator simply overlooked that fact.

Mr. WEEKS. That results from a change that was made in the bill at some time, and I had overlooked it.

Mr. REED. I thought I would call the Senator's attention to it.

Mr. WEEKS. I am greatly obliged to the Senator for doing so.

CONTROLLING THE GOLD SUPPLY.

In this legislation we rely in regulating our gold supply on the raising or lowering of the discount rate and on the supply of foreign bills or short-time Government bonds or other public securities which the banks may hold. Whenever the rates of money are low in this country, the reserve banks should supply themselves with quantities of foreign-made prime bills, which they could send back to the country where made in case the balance of trade was against us and it was inconvenient to export gold, and the one-year refunding notes which are provided for in the Hitchcock plan will be extremely useful for this as well as other purposes. These notes will sell readily to foreign banks of all countries and to local lenders who have money which must be available at a specific time, and in all cases they will be sold for gold, so that even if the Government is not prepared to redeem them when they mature the banks would not lose anything by disposing of them temporarily, in case it is desirable to do so to protect the banks' gold reserves or to prevent the exportation of gold.

I do not think that raising the discount rate as provided for in the bill will immediately answer all the purposes which similar action by the Bank of England has had, because that has been a result obtained after being employed many decades, until now it has become a signal to the whole world to take notice whenever the Bank of England increases its discount rate. It is a danger signal which is respected by banks the world over, and yet the only way to prevent the outgoing of gold or to bring gold into the country by automatic process is to raise the discount rate. Money finds its level as naturally as water, and if we owe a foreign country and had no other means of paying our debt than shipping gold, if the discount rate were high enough the shipment of gold might be prevented by raising

the rate sufficiently to warrant the owners of the money leaving it in this country to be loaned. Of course that is a temporary expedient, but it may last long enough to enable us to sell something abroad which will offset the balance of trade against us and finally prevent the necessity of our shipping gold to pay it.

It seems to me that the redemption plan proposed in the Hitchcock bill is safe and sound and wise from every standpoint. One of the most trying questions connected with this whole subject has been making suitable provision for the outstanding 2 per cent bonds. These have been issued to the banks at a considerable premium simply because they carried the circulation privilege. Intrinsically they are not worth over seventy-five cents on a dollar, and if the circulation privilege were taken away, they would quickly decline to about that price. I think there is universal agreement that the Government is in duty bound to refund these bonds at par, but refunding them at a rate which will maintain them at that level in the market without the circulation privilege would cost the Government in interest at least 1 per cent more than it does now and, furthermore, it would upset such elastic feature as there is in our circulation by retiring the national bond-secured circulation, and would necessitate the putting out of the circulation provided for under this bill in considerable quantities before banks and others had become used to the process which will be involved; in other words, there would be uncertainty and quite likely a serious effect on business.

Therefore, to adjust this whole question, we provide for the purchase by the reserve banks of \$50,000,000 of these bonds at par and interest, and also provide that one-year refunding notes shall be issued for these bonds. This will give the reserve banks an investment at once. It will enable the retirement of one-fifteenth of the national bond-secured circulation. It will be a notice to banks that these bonds are to be taken care of at par and interest, and the very gradual method proposed to refund them and retire the circulation enables the getting out of the new circulation without any strain or probably undesirable results.

Several witnesses who appeared before the committee have believed that this action could be taken more abruptly without any danger, but it has seemed to our committee that in every respect caution and deliberation should mark the changes which we propose.

FOREIGN BANKS.

All of the pending propositions provide for the establishment of banks in foreign countries, the difference in them being that the House bill and the Owen proposition provide that banks having a capital of not less than \$1,000,000 may establish branches. The Hitchcock proposition provides that banks having a capital of not less than \$5,000,000 may establish branches in foreign countries, the difference being due to our belief that any part of a capital of \$1,000,000 or \$2,000,000, or even \$3,000,000, which could be set aside for such purposes would be entirely inadequate; that it would make any branch established in other countries so small compared with the established banks that it would be insignificant and ineffective. It is not going to be easy to establish banks in foreign countries, first, because they are generally well provided with capital for their needs, and, secondly, because the course of business and trade is already established, and the business our banks get must be diverted from the present course, which will result in pretty severe competition and probably small profits for some time to come. But I believe it absolutely essential that we adopt such a system if we are going to maintain our proper place in the foreign trade of the world. Take the condition in South American countries. Every European country engaged in foreign trade to any extent not only has direct lines of steamers to South America but banks capable of financing the trade which has been developed, while we have inefficient steamship connections and not a dollar of American capital invested in banks south of the Isthmus of Panama. The result is that we are tremendously handicapped in our South American operations and will continue to be until we have established suitable lines of communication and authorized and established suitable banking facilities. If an American business man is going to Brazil or the Argentine at this time, he takes a steamer for England and sails from there to his destination. If the Government of the United States wishes to communicate with one of its South American representatives, the communication will follow the same course, and our banking arrangements with South America are entirely carried on through European exchanges, largely through London, thereby enhancing the financial importance of European capitals at the expense of our financial centers. If a tanner in the United States imports a bill of hides from the Argentine, he pays for them through a process similar to the following: He arranges with his banker to arrange a credit in London sufficient to pay the bill; the seller of the hides in

Argentina draws on the London bank, depositing the draft in his local bank, which in turn sends it to its London correspondent, which turns it over to the bank with which the credit has been arranged. This bank accepts the draft, making it a prime bill which will sell anywhere in England or, in fact, anywhere in Europe; but the purchaser of the hides or the payer of the bill has found it necessary to pay commissions to at least three banks in completing this transaction. Incidentally a large amount of money is paid European banks to finance our trade, which should either be paid to American banks or bankers or inure to the benefit of the purchaser of the goods—quite likely both. The president of a western bank publicly stated that his bank has paid as much as \$75,000 a year to London in commissions for conducting trade of this character, which should have been done direct with the banks of this country. The fact is there is no American exchange in South America, and therefore it has been necessary to continue the present, from our standpoint, ill-advised arrangements. Going into this matter in greater detail would, I am sure, be of much interest to Senators, but it is universally conceded that we should take some advanced step, and I believe there will be no considerable opposition to the very moderate one which this bill presents.

I hope Senators will not minimize the importance of this legislation, but will consider it, as I believe it to be, as important, if not the most important, legislation with which any Congress has had to deal in the present generation. Currency is the lifeblood of our business organization, and banks are almost as important to business as the heart is to the physical system. If they are working properly, they are systematically pumping currency through the system, returning it to its source in the regular course provided by legislation. Any derangement of either the banks or currency must necessarily impair all of our business arrangements. In ordinary times in the past these facilities have generally answered our purposes, but during an exciting strain they have broken down and by so doing have deranged all of our commercial affairs. If we are legislating wisely, we will furnish a system which will work as well under pressure as it does in normal times, and Senators should not lose sight of the fact that we are not legislating for banks or great business or for one section of the country or another, but we are legislating for the whole country, and the legislation we adopt will affect every part of it to the remotest corner. It is as vital to the laborer, to the farmer, as it is to the manufacturer, the merchant, or the banker, that we have sound and useful banking and currency systems. I can not better close than by quoting Sir Robert Peel when he presented the bank act in 1844:

There is no contract, public or private, no engagement, national or individual, which is unaffected by it. The enterprises of commerce, the profits of trade, the arrangements made in all the domestic relations of society, the wages of labor, pecuniary transactions of the highest amount and of the lowest, the payment of the national debt, the provision for the national expenditure, the command which the coin of the smallest denomination has over the necessities of life, are all affected by the decision to which we may come on this great question which I am about to submit to the consideration of the committee.

SAN FRANCISCO WATER SUPPLY.

Mr. NELSON. Mr. President, I ask that the banking and currency bill be temporarily laid aside, and that the Hetch Hetchy bill be laid before the Senate.

The Senate, as in Committee of the Whole, resumed the consideration of the bill (H. R. 7207) granting to the city and county of San Francisco certain rights of way in, over, and through certain public lands, the Yosemite National Park, and Stanislaus National Forest, and certain lands in the Yosemite National Park, the Stanislaus National Forest, and the public lands in the State of California, and for other purposes.

Mr. BORAH. Mr. President, not hearing any motion to adjourn, I presume it is incumbent upon this body to take up for consideration the bill which comes up under the unanimous-consent agreement—a measure much less interesting apparently than the one which has just been discussed by the Senator from Massachusetts [Mr. WEEKS].

If anyone were ready to proceed with the discussion of the currency bill, or if we were in a position to vote on this particular measure, I think I should not assume to trespass upon the time of the Senate. The measure is before the Senate, however, and, as I say, under the agreement we are not in a position to vote upon it. Therefore I do not feel that I am trespassing particularly upon the time of the Senate, although perhaps upon its patience, by offering my views upon the measure.

The Public Lands Committee is one of the most careful, conscientious, and painstaking committees of this body. I have no doubt the committee gave to this bill most earnest and unbiased consideration. I am very much of the opinion that had the

measure been permitted to proceed to a hearing before the committee without certain outside arrangements and agreements, which had the effect of preventing an investigation except really as to one side, there would not have been such a wide divergence of opinion growing out of the report of the committee.

So far as I am concerned, my first disposition was to vote for the measure if it were stripped of the things which I think we ought not to undertake to do. In other words, I felt that in all probability San Francisco was in a position where she ought to have the privilege of developing this water at some time, although I never was impressed with its immediate necessity. After undertaking, however, to investigate the terms of the grant itself, I received communications from the farmers of the San Joaquin Valley which led me to make other investigations; and in the opening of my remarks I am frank to say that as the bill now stands I am opposed to its passage.

During the last 50 or 60 years we have been very liberal with the public domain. Without let or hindrance we have granted to whomsoever would come and ask. The patrimony which the Government has given to private corporations in the last 50 years is far in excess of all the patrimony granted by the different kings and rulers of the earth to their favorite satellites and retainers. It has been based upon no legitimate consideration, and in many instances upon corrupt motives. There have been many grants made, based upon what was believed at the time to be a real consideration and a legitimate reason, but which afterwards turned out to be otherwise.

I have before me the report of the Commissioner of the General Land Office for the year 1912. From this report I see that we have granted to the different States of the Union, in order that those States in turn might grant them to the different corporations in their States for the purpose of railroad building, the enormous sum of 37,864,726 acres. Those are the grants which have been made to the different States with a view that the States in return would grant or donate them to different corporations for the purpose of railroad building.

In addition to that, however, the Government has transferred to corporations directly, during the last 40 or 50 years, the enormous amount of 77,609,259 acres. We gave the Union Pacific Railroad Co. 11,930,000 acres, the Northern Pacific 33,294,000 acres, the Union Pacific, Kansas Division, 6,175,000 acres, the Burlington & Missouri 2,374,000 acres, and so on. Thus we have depleted, as it were, this vast public domain of which we now stand so much in need, which it would be well to have that the countless thousands might make thereon homes.

Each year there is moving across the border into the Dominion of Canada 100,000 of our citizens seeking homes under another flag, because so much of the domain which belonged to the people of this country has been transferred and given to private corporations.

We have now reached another phase of the situation, the strategic places in our natural resources. Those places which command in a large measure a vast amount of country and control the destiny of a community have come to be of importance in this matter of grant and disposition. We have already reached the disposition, apparently, or the dismemberment of our public parks, which were set aside only a few years ago under the express stipulation and the solemn declaration of Congress that they should remain for all time in the possession of all the people for certain limited, designated purposes.

A few years ago, and only a few, the Government set apart a part of the Stanislaus Forest Reserve to become a part of the Yosemite National Park. Shortly thereafter the State of California ceded to the Government other ground, which was to form the Yosemite National Park in conjunction with that which had been set apart by the National Government, and in this dedication made by the State of California it is made clear what are the purposes and objects of the recession and grant. I venture to call attention to the terms of that grant:

This act shall take effect from and after acceptance by the United States of America of the recession and regrants herein made, thereby forever releasing the State of California from further cost of maintaining the said premises, the same to be held for all time by the United States of America for public use, resort, and recreation, and imposing on the United States of America the cost of maintaining the same as a national park.

"Shall be set aside and held for all time by the United States of America for public use, resort, and recreation." My investigation leads me to believe that that express provision is not in that particular portion of the grant of the park which is covered by this bill, but no one would contend for a moment that the spirit, the purpose, the object of creating the entire park was other than that which is designated so plainly by the State of California. Therefore, while I do not rest the objection

upon the technical proposition that the recession itself protects by its terms this particular portion, I place it upon broader and higher ground, and that is the spirit and purpose which actuated and dominated the people in setting aside this park.

I call attention to that, not because it is controlling as a legal proposition, not prohibitive of our further proceeding from a legal standpoint, but to admonish us that within a very few years after we have solemnly declared to the American people that this great nature garden, one of the most remarkable scenic displays in the world, should be set aside for all time for all the people of the United States as a place of resort, we are now preparing to dismember and destroy it, at least to a marked extent.

It at least ought to have this effect, Mr. President, in presenting this matter, to impress upon us the necessity, the absolute, imperative necessity, of considering what we are doing. It ought to impress upon us the proposition that only human wants and human life—absolute necessity—should guide us to the enactment of this law. I say, in the beginning, if that necessity could be proven or based upon the showing in this affair, there would be no alternative, of course, much as we would dislike to dismember the park. But the necessity ought to be clearly established and imperative.

I want those who are not already entirely familiar with the proposition to bear in mind another proposition, and that is what I consider the strategic position of this grant. In other words, if there were a gorge in the mountains through which alone one railroad could pass, we would be doing in that instance something like what we are doing here if we should grant to one corporation alone the right to use that gorge or pass, because, if my information is correct—and I have sought information from every source available to a man in Washington and not on the ground—if my information is correct, the great and almost immeasurable value of this grant consists in the fact that it is a natural monopoly upon the use, that the grant becomes effective by reason of physical conditions and by reason of the fact that this reservoir commands that whole country in its supply of water and power.

This is not like granting a right of way over a piece of waste land or even a piece of beautiful land, but it is like granting that which will enable the grantee to step in and become a dictator as to the commercial destiny of a very large portion of that country.

That is the feature, Mr. President, which halted me in my investigation as to the granting of any right of way at all. As I said, in the first instance I was perfectly willing, if this grant should be stripped of the things which we ought not to try to do, to grant a right of way, naked and alone, and then permit the people of California, under the laws of California, to settle their rights and enjoy the privileges which they might enjoy under the general laws of that State after having the right of way. But when I ascertained to my satisfaction that a physical condition interposed, being appurtenant, as it were, to this grant, giving the grantee a practical monopoly, enabling it to control the destiny and measure the prosperity not only of the people of that community but to accentuate and enlarge its own at their expense, a different proposition was presented.

I believe, Mr. President, it can be safely said that tedious and uninteresting as this bill has come to be, we are now about to grant, if the bill should succeed, a franchise which is worth from fifty to one hundred million dollars the moment that the grant becomes available. Yet we are doing it as if there were an untold number of similar grants to be enjoyed by all the different people of the United States. It is practically exclusive. It is in its practical workings a monopoly. It is of vast value. It is not only dismembering the park, but it is giving a monopolistic advantage which Congress at this time ought not to consider.

If this grant could be made so that every one in that vicinity or in that general community could enjoy that which nature and God seemed to intend that they should enjoy by coming in proximity to it, if the naked grant could be granted, for instance, to the State of California, and let the State of California dispose of it under her law, so that the farmer and the bay cities and San Francisco and all the other people of that community could enjoy equally and with the same advantage all the vast rights and privileges of this grant, I would not feel so opposed to the bill. There would be left, of course, the question of dismembering the park, which is a strong proposition with many people, but I am not sure that it would be controlling.

There has been a great deal of discussion of late years upon the part of many good, earnest people to the effect that all these natural resources ought to be gathered up and put in the

hands of the Federal Government, because, said they, the Federal Government will take far better care of these natural resources than the States. Some of us who have thought that possibly some virtue still remained in the old doctrine that there was some sovereign power still left in the States and that there were some virtues left in the people who live in the States never could understand how a man was any wiser or more virtuous after he got to Washington than he was before he started. In other words, if the people at home are not capable of taking care of these things, it did not seem to me that there had been such a complete transformation after a party reached Washington as to enable him to do it.

If our theory of Government is correct, if we have built upon correct principles at all, then the basis of power, the basis for action, rests with the people at home, and those things which are of local concern and private concern should always be left to them.

I should think that that doctrine would appeal still to those who believe, indeed, as the Senator from Georgia [Mr. Bacon] said the other morning in discussing the question of precedence in Washington, that the States are sovereign communities.

But, said the conservationists, you people who are opposed to the National Government taking control of these things are advocating that which the power companies and the monopolies want you to advocate; you are the representative of corporations. I have upon my desk here a speech delivered some two years ago, in which a number of us were attacked because we were in favor of retaining some rights in the State government.

Now, Mr. President, I warn the people of the United States that that which is happening here now will be precisely what will continue to happen, and if the people do not arouse themselves the 77,000,000 acres granted to private corporations in the past will be followed from time to time, so long as sufficient influence and power can be brought to bear upon the Congress of the United States, until the last item of natural resources is gone and the last natural park that is available has been dismembered and broken up.

There is no government in the world so easily moved to grant privileges and special favors as the Federal Government at Washington. There is no government where such insidious influence upon false and specious pleas is so effective as in this city of Washington before Congress and in the departments here, where arrangements are made which the people know nothing about until they have gone into effect. I know that is a strong statement to make, but I shall not cut it out of the Record. When we know that our public domains have practically been disposed of out of mere favor there is no need to talk to me about the protecting power of the Federal Government with reference to our natural resources.

Mr. President, so far as I am concerned, I think we are approaching the time when, still recognizing the powers of the State and National Governments, these resources must pass more and more under public ownership and be operated by public ownership.

Whenever we find a natural monopoly or where it has become apparent that as to a particular business competition has ceased to exist, and it has been disclosed that substantial competition can not be restored, I am in favor of absolute public ownership. The leasing system is a delusion, so far as our natural resources are concerned—the lurking rendezvous of incompetent service to the public and corruption. The idea that is now gaining ground in some quarters that we can regulate and control combinations and monopolies left in private hands will bring no relief to the people. The Republic may in some instances be strong enough to destroy monopoly, but it will never be strong enough to regulate and control it. The persistent, sleepless vigilance and the insatiable appetite of private gain will in the long run prove too powerful for spasmodic and intermittent public virtue. Wherever private gain has ceased to be under the law of competition the business must then come under public ownership, where private gain can be eliminated, whether it is a railroad or a coal mine. Some will call this state socialism, and so far as it is and to the extent that it is I am for state socialism. Names have no terror for me. I am for results. It is claimed by some that this is public control. In no proper sense is it such.

Let us now, Mr. President, examine the terms of this grant. It is an interesting proposition. Even if we were going to grant San Francisco this right of way, it would still be an interesting proposition to know whether we want to grant it in the terms in which we have undertaken to grant it in this bill.

First I call your attention to the fact that this is a grant in present. It is not a grant to take effect upon the performance of certain conditions; it is not a grant to take effect if certain

conditions are not performed; but the grant is a grant outright, and vests in the city of San Francisco, by the terms of the grant itself, the title to this property. It says that—

There is hereby granted to the city and county of San Francisco, a municipal corporation.

Giving a grant in present and all the conditions which follow it are conditions subsequent. I think I shall be able to show in a few moments that there is no forfeiture clause in this grant at all with reference to anything except the failure to build and the attempt to sell it to some one.

All these other matters about which we have been talking, where the farmers' interests would become involved and where it is said forfeiture would result if they did not perform, are not forfeiture clauses or forfeiture conditions to the grant at all. They are conditions of the grant, but there is no forfeiture condition in regard to them.

I shall not undertake just at this moment to go into the particular clauses relating to the farmers' interests, because I am coming to that later. I want to call the attention of the Senate to this clause upon page 2 of the bill:

For conveying water for domestic purposes and uses to the city and county of San Francisco and such other municipalities and water districts as, with the consent of the city and county of San Francisco, or in accordance with the laws of the State of California in force at the time application is made.

And so forth.

When you come to construe this grant as a whole you will find that this clause here, "with the consent of the city and county of San Francisco," practically places the city and county of San Francisco in exclusive control of this great grant and all its privileges, and those who are to enjoy it hereafter must enjoy it by her consent or her privilege.

Now, Senators, there is in San Joaquin Valley at the present time a large number of people, but it is conceded that San Joaquin Valley, if permitted to develop, will in a few years be vastly more populous. It is a great valley, with a great future.

There are the bay cities surrounding the city of San Francisco, neighbors to it, and so forth, and this grant says:

With the consent of the city and county of San Francisco, or in accordance with the laws of the State of California in force at the time application is made.

I am aware of the stress which will be laid upon the terms "in accordance with the laws of the State of California in force."

Mr. WORKS. Mr. President—

The VICE PRESIDENT. Does the Senator from Idaho yield to the Senator from California?

Mr. BORAH. I do.

Mr. WORKS. I hope the Senator from Idaho will not overlook the fact that that refers to the law at the time the application was made. The law of California has been materially changed since that time.

Mr. BORAH. I thank the Senator. I was going to call attention to that fact. If San Francisco is placed in a position by reason of the physical condition of the country where she has the only reservoir site, where she will be the only one who can practically appropriate or acquire title to water by reason of the fact that she has the physical advantage in the reservoir proposition, what benefit or virtue will the clause have "or according to the laws of the State of California"? The other people can not ripen their water rights; they can not bring them to a conclusive title, and the laws of California will not operate to any advantage either to the cities around the bay or to the vast number of people who live in the San Joaquin Valley. There are other clauses in this grant which support and accentuate that contention.

I do not assert, Mr. President—for a man would not want to say, unless he had the final guess upon the proposition—as a matter of law what the construction of a court would be; but I invite the attention of the lawyers of the Senate to the proposition that a fair construction of this grant as a whole grants an absolute monopoly to the city of San Francisco in this water and this power, and enables her to sell and dispose of it to all her neighbors and the surrounding country as the sole owner and dictator of the situation. I do not now forget the terms of the grant with reference to fixing rates, to which I shall come later. Why is this clause requiring consent there? What is its virtue? What advantage does it give? That is an interesting and important question.

Mr. KENYON. Mr. President—

The VICE PRESIDENT. Does the Senator from Idaho yield to the Senator from Iowa?

Mr. BORAH. I do.

Mr. KENYON. It seems to me, Mr. President, that an argument of this character is entitled to a larger hearing, and I therefore suggest the absence of a quorum.

The VICE PRESIDENT. The Secretary will call the roll.

The Secretary called the roll, and the following Senators answered to their names:

Ashurst	Goff	Overman	Sterling
Bacon	Gore	Owen	Stone
Borah	Gronna	Page	Sutherland
Bradley	Hollis	Perkins	Swanson
Brady	Hughes	Pittman	Thomas
Bristow	James	Reed	Thompson
Bryan	Jones	Robinson	Thornton
Burton	Kenyon	Saulsbury	Townsend
Chilton	Kern	Shafroth	Vardaman
Clapp	Lane	Sheppard	Walsh
Clark, Wyo.	Lippitt	Shields	Warren
Clarke, Ark.	McCumber	Shively	Weeks
Colt	Martin, Va.	Simmons	Williams
Cummins	Martine, N. J.	Smith, Ariz.	Works
Dillingham	Nelson	Smith, Ga.	
Fletcher	Norris	Smith, Md.	
Gallinger	O'Gorman	Smoot	

Mr. SMITH of Maryland. I wish to again state that my colleague [Mr. JACKSON] is absent on account of illness.

Mr. THORNTON. I desire to announce the absence of my colleague [Mr. RANDELL] on important public business. I ask that the announcement stand for the day.

Mr. KERN. Both Senators from South Carolina [Mr. TILLMAN and Mr. SMITH] are detained from the Senate on account of illness, one in his family and the other personal.

The VICE PRESIDENT. Sixty-five Senators have answered to the roll call. There is a quorum present. The Senator from Idaho.

Mr. BORAH. Mr. President, I was calling attention to the terms of this grant with reference to the features of it which give San Francisco the exclusive control of the situation. I will not repeat what I said, but I will invite especially the lawyers of the Senate to examine the grant from that standpoint, and see if they deem it a wise thing to grant the privilege in this form even if they should not agree with some of us that it ought not to be granted in any form. The provision to which I was calling attention is found on page 2, where it says:

For domestic purposes and uses to the city and county of San Francisco and such other municipalities and water districts as, with the consent of the city and county of San Francisco, or in accordance with the laws of the State of California in force at the time application is made.

That should be taken in connection with the grant upon page 1, which says:

That there is hereby granted to the city and county of San Francisco—

The grant runs directly to the city and county of San Francisco; and then it says that it is for the benefit of the city and county of San Francisco and such other municipalities and districts as may, with the consent of San Francisco or in accordance with the laws of the State of California, and so forth.

Here, Mr. President, perhaps I might as well say as at any other time that I have no doubt of the power of the National Government to attach such conditions to this grant as any other proprietor may attach to a grant of land, and I have no doubt of the proposition that the Government can attach no other conditions than an individual proprietor of land could attach to a grant of land; in other words, the National Government can not, in making a grant of this kind, combine its proprietary rights with its sovereign power and do things as a proprietor because it is a Government that it could not do as a proprietor if it were not a Government.

In discussing these matters which have reference to the disposition of public lands, and especially of power sites, and so forth, we sometimes fail to keep in mind the fact that the Government of the United States simply owns this land as a proprietor, as John Smith or Sam Jones owns his land, and that the Government of the United States in making a grant can no more interfere with the rights and privileges and powers of the State or embarrass or impede the State in the discharge of its duty toward its citizens, such as fixing the rates that public utilities shall charge, and so forth, than two individuals can enter into an agreement and impede or embarrass the operation of that State in regard to those things. In other words, if an individual owned this particular land and should undertake to grant it to San Francisco, that particular individual could not put into the grant such provisions as would allow the agent of the individual to go in and fix the rates which San Francisco should charge the bay cities or some other district. That individual could not put into the grant such provisions as would enable some other person than the person designated by the State to fix the charges which a public-utilities corporation might charge the parties using the water or the light. So we may, I think, readily come to the conclusion that if there are any provisions in this grant which will interfere with the ordinary functions of the State in fixing rates and charges for its citizens, they will be wholly inoperative; and being inoperative,

being void, they would at no time estop the grantee, the city of San Francisco, from saying that they were void and that she was not bound by them.

The Supreme Court of Wisconsin in a case has said:

The rule of law is well settled and, in fact, elementary that if a condition subsequent be possible at the time of making it and becomes afterwards impossible to be complied with, either by act of God or of the law or of the grantor; or if it be impossible at the time of making it or against the law, the estate of the grantee being once vested is not divested, but becomes absolute. (*Burman v. Burman*, 79 Wis., 566.)

So the discussion which has proceeded upon the theory that if the city of San Francisco did not do thus and so by the farmers with reference to the distribution of this water, they could enforce their claim and that San Francisco would be estopped from denying it is, in my judgment, not well founded as a proposition of law.

The United States Court of Appeals said in a case:

As a condition subsequent may be excused when its performance becomes impossible by the act of God or by the act of the party for whose benefit it is created, or is prohibited or prevented by the act of the law, so it may be waived by the one who has the right to enforce it. (*Mahoning Co. v. Young*, 16 U. S. Ap., 277.)

The Supreme Court of the United States has said:

No one can take advantage of the nonperformance of a condition subsequent annexed to an estate but the grantor or his heirs or successors; and if they do not assert their right to enforce a forfeiture on that ground the title remains unimpaired in the grantee. The rule equally obtains where the grant upon condition proceeds from the Government. (*Schubenberg v. Harriman*, 21 Wall., 44.)

In the first place, all presumptions are in favor of the grant standing and against forfeiture; in the second place, all the conditions which are illegal or unconstitutional would be utterly without force and effect in a court on the question of estoppel; and in the third place, no one could raise the question of forfeiture or seek to enforce it, except the Government of the United States.

The farmers of the irrigation districts would be perfectly powerless to undertake to do anything to enforce any forfeiture or enforce any conditions in the way of breaking the grant. That could be done only by the Government of the United States. So in this instance the farmers or irrigationists and the bay cities would not be in a position to claim the benefit or privilege of these conditions if the city of San Francisco should see fit to refuse them.

I do not believe any of the conditions which have been imposed in this grant are enforceable except the two with reference to a resale and a failure to build. In those two instances, of failure to build and of resale, there is an express provision for forfeiture, and an express provision that the Attorney General of the United States shall proceed to enforce them. The Government of the United States could proceed to enforce those conditions, but all the others are simply conditions of the grant, and if the parties should receive injury their remedy would be that in damages, if they had any at all.

Again, I call attention to the fact that this grant is not expected to become operative so as to confer its benefits upon the people of San Francisco for a number of years. In the first place they are not required to file their map and right-of-way plat for three years. After that it is estimated by the city engineers that in all probability the effective work will not be begun, or at least that they will not be in a position to realize the benefits of the grant, for all the way from 8 to 15 years. The argument that the passage of this bill is a matter of immediate necessity, that the people are suffering, that the conditions require quick action, and the portrayal of such scenes as that painted and undoubtedly believed by the Senator from Arizona, are aside from any proposition which is really before the Senate upon this subject.

Of course that is not an important matter in one sense, although there has been much stress put upon it at different times in the debate. I call attention to one feature of the grant which shows, in my judgment, perhaps I should not say the looseness with which this grant was drawn, because it was not drawn with looseness. The man who drew this grant is a very able and adroit lawyer, and had a very deep and profound and moving affection for his client.

The bill says, in section 3:

That the rights of way hereby granted shall not be effective over any lands upon which homestead, mining, or other existing valid claim or claims shall have been filed or made and which now in law constitute prior rights to any claim of the grantee.

What prior right would a homesteader have as against the grant in present, under the terms of this bill, unless the homesteader's grant had ripened into a patent or, at least, a final receiver's receipt? He might have been upon his homestead for months, or even for two or three or five years, under the old law, and yet under this bill his right would not be protected, because his right is not one which in law constitutes a prior right to this grant.

The homesteader has no right which is recognized or protected in law as a prior right to an absolute grant unless his patent precedes the grant, or possibly I might modify that by saying, under the old practice, his final receiver's receipt, which is in effect a patent—his final proof.

Now we come to the real and only forfeiture here. It is this:

That the construction of the aforesaid works shall be prosecuted diligently, and no cessation of such construction shall continue for a period of three consecutive years, and in the event that the Secretary of the Interior shall find and determine that there has not been diligent prosecution of the work or of some integral and essential part thereof, or that there has been a cessation of such construction for a period of three consecutive years, then he may declare forfeited all rights of the grantee herein, as to that part of the works not constructed, and request the Attorney General, on behalf of the United States, to commence suit in the United States District Court for the Northern District of California for the purpose of procuring a judgment declaring all such rights to that part of the works not constructed to be forfeited to the United States, and upon such request it shall be the duty of the said Attorney General to cause to be commenced and prosecuted to a final judgment such suit.

Those are the two forfeiture clauses, and the only ones which are provided for in this bill, in my judgment. These other matters, which are of primary concern to the surrounding communities, are not based upon forfeiture clauses.

In connection with the other proposition which I was discussing a few moments ago, with reference to consent, and the monopolistic features of this grant, so far as San Francisco is concerned, I call attention to part of section 6:

That the grantee is prohibited from ever selling or letting to any corporation or individual, except a municipality or a municipal water district or irrigation district, the right to sell or sublet the water or the electric energy sold or given to it or him by the said grantee.

This grant contemplates all the way through that San Francisco is to be placed in a position where, as a proprietor and owner, she can sell and dispose of this water and light to the other bay cities or to the people of the San Joaquin Valley.

I have no doubt that San Francisco under this language could enter into the business of supplying water to the farmers of the San Joaquin Valley. I do not think it is wise for us to grant that kind of a privilege, even to a municipal corporation, which, of course, I concede, would be much better than granting it to a private corporation. So far as these farmers are concerned, however, or so far as the other cities are concerned, it would be individual or private ownership. It is not public ownership unless it is confined to a city whose officers are elected by those who are affected. So far as all the other cities are concerned, and so far as the farmers of the San Joaquin Valley are concerned, it would be private ownership. San Francisco would be private as to them, because they have no voice in the election of the officers or in the selection of those who are to pass upon their rights. We are, in fact, placing in the control of the city of San Francisco—taking into consideration the terms of the bill and the physical situation of the surrounding country—not the power to supply water to her people alone, mind you, but the power to deal and traffic with the surrounding communities in regard to the water and light.

Mr. LIPPITT. Mr. President—

The VICE PRESIDENT. Does the Senator from Idaho yield to the Senator from Rhode Island?

Mr. BORAH. I yield to the Senator from Rhode Island.

Mr. LIPPITT. While the statement the Senator makes is perhaps correct, he also undoubtedly knows that it is with the consent of the surrounding cities. Oakland and Berkeley and a number of the other cities have expressed their willingness and their approval of this proposition.

Mr. BORAH. I was not aware of that.

Mr. WORKS. That is a mistake. There never has been any action by any of these cities.

Mr. LIPPITT. I think the Senator will admit that action has been taken by the authorities of those cities.

Mr. WORKS. No.

Mr. LIPPITT. I do not know that action has been taken by a public vote.

Mr. WORKS. There has been no action taken by the authorities of these cities. I will say to the Senator that they have talked about it and have expressed their desire to have it done, but there never has been any official action taken.

Mr. LIPPITT. Was there not a meeting and a hearing here in Washington to which delegates were appointed by Berkeley and by Oakland, and were they not authorized to agree to and approve of the plans of San Francisco?

Mr. WORKS. Not that I know anything about.

Mr. LIPPITT. I have a very strong impression to that effect.

Mr. WORKS. I think the Senator is mistaken. I think the hearings will show that.

Mr. BORAH. Mr. President, I think the Senator from Rhode Island is in error in regard to that; but it would not make a

particle of difference to me in voting on this bill if the people of Berkeley and Oakland and the other cities had consented to it. People can not enter a committee room, amid the surroundings of neighborly courtesy, and traffic with the interests belonging to the entire people of the United States. Congress ought not to be controlled by private contract. I do not think they entered into such an agreement. I know the farmers started to enter into it, and I know they have changed their minds.

I desire now to call attention to the fact that when we come to the question of fixing the rates in this grant we enter upon a very interesting proposition. The bill says:

The said grantee shall develop and use hydroelectric power for the use of its people, and shall, at prices to be fixed under the laws of California, or in the absence of such laws at prices approved by the Secretary of the Interior, sell or supply such power for irrigation, pumping, or other beneficial use, said prices not to be less than will return to said grantee the actual total costs of providing and supplying said power.

And so forth.

Mr. President, there are other clauses in this grant, which I shall not take the time to read, carrying out that proposition. We are about to establish the precedent that a proprietor of public lands can make a grant, and in the execution of that grant send a Federal officer into a sovereign State to fix the prices which a public-utility corporation or a municipal corporation shall charge to its citizens or the amount of toll which they shall pay.

Mr. LIPPITT. Mr. President—

The VICE PRESIDENT. Does the Senator from Idaho yield to the Senator from Rhode Island?

Mr. BORAH. I do.

Mr. LIPPITT. If the Senator will allow me for just a minute, I do not want to put too much emphasis on the point I made a moment ago, but I thought I could not be entirely mistaken. I find here in the report of the engineer of the San Francisco waterworks, Mr. Freeman, a resolution dated June 26, 1911, of the city council of the city of Oakland, which, after several "whereases" describing the occasion for passing the resolution, says:

Further resolved, That the city of Oakland formally joins with the city of San Francisco for the purpose of securing said water supply.

There are other resolutions, by the city of Berkeley, and so forth. I thought there was certainly ample ground for my statement.

Mr. BORAH. I was not aware of that; but, as I said after the Senator left the Chamber, a mere private contract would have very little influence with me. What right has the city council, the mere creature of a day, to contract away the rights of future generations with reference to the use of this water?

Mr. LIPPITT. Mr. President, the Senator was calling attention to the position of San Francisco in regard to supplying these other cities. I only wanted to call attention to the fact that the protest which was being made was not being made by the cities themselves, but was made by the Senator from Idaho. Instead of these cities having themselves protested against putting this grant into operation, they are apparently in favor of it, so far as a preference can be expressed by the vote of their accredited representatives. I suppose their accredited representatives are in a position at this time to take such steps as they think wise to take care of the future water supply of the cities, and that they are not bartering away the privileges or liberties of unborn generations, as the Senator seems to think.

Mr. BORAH. There seems to be a divergence of opinion between the Senator and myself.

Going back to the proposition to which I was calling attention, on page 22, it is further stated:

That the rates or charges to be made by the grantee or by any lessee under the last preceding paragraph for the use of power for commercial purposes shall at all times conform to the laws of the State of California or, in the absence of any such statutory law, be subject to the approval of the Secretary of the Interior, and in the absence of such law no rates or charges shall be made, fixed, or collected without such approval, and the grantee shall at any time, upon the demand of the Secretary of the Interior, allow the latter or such person or persons as he may designate full and free access, right, and opportunity to examine and inspect all of the grantee's books, records, and accounts, and all the works constructed and property occupied hereunder by the grantee.

You will see that by virtue of this grant they undertake to transfer this sovereign power just where they will.

Mr. NORRIS. Mr. President—

The VICE PRESIDENT. Does the Senator from Idaho yield to the Senator from Nebraska?

Mr. BORAH. Just a moment and then I will yield. They first say that the rates may be fixed under the laws of the State of California, recognizing the fact that that is undoubtedly where the power to fix rates belongs. If it does belong there, can a grantee and a grantor of a right of way over the public

lands transfer it from one to the other? Can sovereignty be changed by the mere contractual relations of two parties?

We are nevertheless proposing to pass this bill knowing that that provision is in the bill and asserting solemnly as a Congress that we have the power to make such a law, adding to it our judgment and our approval and whatever of verity we can give to it.

I now yield to the Senator from Nebraska.

Mr. NORRIS. Mr. President, assuming that we desire to pass the bill and grant to San Francisco the right to develop this power, what objection has the Senator to the provision in the bill that the price paid for power sold shall be fixed according to the laws of California? Is there any objection to that?

Mr. BORAH. No; I have no objection to that.

Mr. NORRIS. That was the part the Senator read, or at least part of the part he read.

Mr. BORAH. I was referring to the part which authorized the Secretary of the Interior to participate in fixing the rate. In regard to the other provision, while, as I say, I have no objection to it, it is just like writing into this grant the Ten Commandments.

Mr. NORRIS. It would not hurt it any if you put them in.

Mr. BORAH. No; but perhaps it would not add any strength to it here.

Mr. NORRIS. It would be a good lesson even here. Of course it would not add any strength to it.

Mr. BORAH. But there is no need of putting into a grant a stipulation that the rates charged by a local municipal corporation shall be fixed by the laws of California, for the reason that without any assertion in the grant that stands as the rule under which we would have to proceed, anyway.

Mr. NORRIS. The Senator, then, contends that with it in or without it out there would be no difference so far as the law is concerned?

Mr. BORAH. I think that is so.

Mr. NORRIS. Then, assuming further that there is no law or that there might come a time when there would be no law in California fixing the rates, does not the Senator think in an emergency of that kind there ought to be some provision by which the rates could not be exorbitant or unreasonable?

Mr. BORAH. Yes.

Mr. NORRIS. Then, under a condition of that kind, assuming that it should arise, what objection has the Senator to the balance of the provision which gives the right to the Secretary of the Interior?

Mr. BORAH. My objection is that in the first place we have no power or authority to send a Federal officer into a State to perform one of the sovereign functions of a State—that is, to fix rates.

Mr. NORRIS. I have assumed that the State has no law.

Mr. CLARK of Wyoming. That it has the right, but not the law.

Mr. NORRIS. The State has the right it is true, and this law recognizes it, and if you want to give any effect to it there is a condition. That undoubtedly will never arise, but for the sake of considering the particular provision, I think it is fair to assume that that condition has arisen. I assume it only for the purpose of considering that proposition.

Mr. BORAH. It seems to me I quite disagree in the suggestion or logic of the Senator for this reason, that upon that theory he was assuming that the State has not performed its function and exercised the sovereign power which belongs to it, and upon that theory the Federal Government assumes to do the thing which is asked. Upon that theory there would not be any limit to our power. We could assume, for instance, that the courts would not do their duty; we could assume that the governor of a State would not do his duty; we could assume that the legislature of a State would not do its duty; and we could provide machinery and pass any laws we saw fit.

Mr. NORRIS. The Senator believes that condition could not possibly arise. As I understand, however, that provision of the law the Senator thinks is absolutely useless. It could not have any effect, as I understand the Senator's position.

Mr. SUTHERLAND. Mr. President—

Mr. BORAH. I yield to the Senator from Utah.

Mr. SUTHERLAND. I wish to suggest to the Senator from Idaho, in addition to what he has said—and I entirely agree with him—that this provision goes still further. The power to regulate the prices charged by a public-utility corporation and for furnishing water or power or transportation within a State is a power which belongs to the State alone, and does not in any way belong to the Federal Government. When the Federal Government undertakes to enter that field, it is a trespasser pure and simple.

The suggestion I want to make to the Senator is that that being a power of the State government, the failure upon the part of the legislature to make any regulations with reference to it is equivalent to a declaration of policy upon the part of the State to leave it unregulated and to leave it to the corporation, whether that is a wise thing to do or not, to fix their own prices, unaffected by any statutory law and unaffected in any way except by the action of courts of equity. This attempt to take out of the hands of the State the policy of inaction, which may be the policy which the State itself is determined upon, and commit it to the hands of the Federal Government is, I think, clearly something that Congress ought not to undertake.

Mr. BORAH. Mr. President, I agree with the Senator from Utah.

Now, I wish to discuss that feature of the grant which relates to the farmers of the San Joaquin Valley. A great deal has been said about it here, but perhaps a few connected remarks will not be out of place in the course of this general discussion. On page 13, subdivision (b), it is said:

(b) That the said grantee shall recognize the prior rights of the Modesto irrigation district and the Turlock irrigation district as now constituted under the laws of the State of California—

Of course, it is utterly without force or effect to provide that a municipal corporation shall recognize the laws of a State and the rights which have grown up under the laws of the State. It can do nothing else. I agree that it is purely superfluous, but it had for its object when it went in there of satisfying certain people who were greatly interested. It added nothing to the right, settled nothing, determined nothing, adjusted nothing—

or as said districts may be hereafter enlarged to contain in the aggregate not to exceed 300,000 acres of land, to receive 2,350 second-feet of the natural daily flow of the Tuolumne River, measured at the La Grange Dam, whenever the same can be beneficially used by said irrigation districts, and that the grantee shall never interfere with said rights.

I do not believe that the Senators who are supporting this bill will urge that there is a single syllable in this entire paragraph that has any more force or effect in determining the right of the farmers of the San Joaquin Valley than if it were white blank paper.

Mr. NORRIS. Mr. President—

The VICE PRESIDENT. Does the Senator from Idaho yield to the Senator from Nebraska?

Mr. BORAH. I do.

Mr. NORRIS. I do not want that statement to go altogether unchallenged. I concede that we could not take away by this legislation nor any other the farmers' rights that have accrued to them under the California law. I will concede that; but if they had no right whatever, if they were not entitled to a gallon of that water, San Francisco, if this bill were passed, would be estopped to deny that they were entitled to the amount that is named there. As between San Francisco and those irrigationists it recognizes that they are entitled to that much and San Francisco could not deny it to them. They might be entitled to 2,000 more feet and be able to get it, but if they are not entitled to 2,000 additional feet, as far as San Francisco is concerned she would not dare deny that they were entitled to the amount named.

Mr. BORAH. When the Senator says "dare" does he mean that it is illegal and they could not?

Mr. NORRIS. I mean to say San Francisco would be estopped.

Mr. BORAH. No.

Mr. NORRIS. It takes this grant on that condition.

Mr. BORAH. I do not think the Senator was present awhile ago when I called attention to the fact that if this is an illegal proposition, if it is seeking to do that which we have no power to do, the mere fact that she takes a grant would not estop her from denying it.

Mr. NORRIS. I think it would. My contention applies to a broader power. If the Senator will permit me, if this were a dam on public land, a right of way or any condition could attach.

Mr. BORAH. But you are attaching a condition here that does not belong to the proprietor at all. You are not attaching a condition which an individual could attach. Let me ask the Senator, suppose, instead of the United States, an individual should undertake to grant this to San Francisco, and that individual and San Francisco should enter into an agreement thus disposing of water rights contrary to the laws of the State of California?

Mr. NORRIS. If an individual owned it he could sell it on any conditions he saw fit.

Mr. BORAH. He could attach any condition to the grant that, as the proprietor, he was entitled to attach to a grant

ordinarily, but he could not go outside the terms of the grant and affect the rights of other parties or affect the rights of the State, or embarrass or impede the rights of the State. The State now has the right to say how its water may be acquired and distributed, to regulate and fix the rates for which it may be sold or distributed. The National Government can not affect that power of the State either by a general statute or under the guise of a grant of public lands.

Mr. NORRIS. If I were selling the Senator a farm I could attach as a condition that he would permit the Senator from North Dakota to live on it for a year. I do not see any reason why we, representing the Government in this legislation, can not attach any provision that we see fit as a condition to the grant in regard to the price which San Francisco shall charge.

Mr. BORAH. Let me take the Senator's own illustration with reference to living upon a farm. The State of California did not undertake to say where a man shall live. It is not one of the functions of the State to determine the point where a man shall live. That is a matter of contract and private convenience. But the State of California says, We own every foot of this water, and it shall be distributed and charged up and apportioned according to the way we say in our law.

Mr. NORRIS. Let us take the same illustration. It is not my right to say where the Senator from North Dakota shall live. I have a right to put that in my deed as a condition. He does not need to live there if he does not want to, but he will have the right to do it.

Mr. SUTHERLAND. Mr. President—

Mr. BORAH. I yield to the Senator from Utah.

Mr. CLARK of Wyoming. With the permission of the Senator from Idaho, I was going to ask a question of the Senator from Nebraska.

Mr. BORAH. Very well.

Mr. CLARK of Wyoming. Does the Senator from Nebraska think that an enforceable condition could be attached to the grant of an illegal act?

Mr. NORRIS. No; but even that illegal act might be a part of a condition upon which the grant was given, and it could not be taken back if properly drawn.

Mr. CLARK of Wyoming. Does the Senator believe that the grantee could compel the performance of the illegal act?

Mr. NORRIS. No.

Mr. CLARK of Wyoming. And if the illegal act is not performed, does the Senator believe that the grant would thereby be forfeited?

Mr. NORRIS. Not necessarily, and I have not claimed anything of the kind. I recognize that Senators have this view. I can not help but recognize the peculiar smile that runs over their countenances when I assert that I believe that in granting San Francisco the right to build a dam on the public lands of the United States and a right of way across the public lands of the United States we can attach any condition we see fit as to the power or development of the water. In this case we do not say that these irrigation districts are entitled to that much water. There is not anything in the proposed law that can be construed into meaning that, but we say that San Francisco shall recognize the right to that much water. They may never claim it. They may abandon it altogether. Under a State law they might lose all their right. Under the State law, I will say right now, I do not believe they have that much right, and they could not prove it in a California court to-day. It is put in there only for a benefit that San Francisco must recognize. If that is wrong, if that is unconstitutional, then the attempt to benefit the irrigationists who are now trying to defeat the bill is, of course, useless. I believe it is right, and the men who drew the bill thought it was right or it would not have been put in.

Mr. WALSH. Mr. President—

The VICE PRESIDENT. Does the Senator from Idaho yield to the Senator from Montana?

Mr. BORAH. I will yield first to the Senator from Utah [Mr. SUTHERLAND], and then I will yield to the Senator from Montana.

Mr. SUTHERLAND. We have gotten some little distance away from the point I want to suggest. The Senator from Nebraska a minute ago asked the Senator from Idaho whether or not if the Senator from Idaho owned a farm he could not grant it upon condition that the Senator from North Dakota should be permitted to live upon it. There can not be any doubt about that. But does the Senator from Nebraska think that the Senator from Idaho could grant a right of way to a railroad company across his farm upon the condition that, if the laws of the State did not regulate prices, the Senator from Idaho should regulate the charge which the railroad should make?

Mr. NORRIS. No, sir; I do not contend anything of the kind.

Mr. SUTHERLAND. What is the difference between the Senator and the Secretary of the Interior in that respect?

Mr. NORRIS. There is a great deal of difference. There was a case recently decided by one of the supreme courts on the very proposition the Senator puts to me, that I presume he is familiar with, of course, where that was done on condition that a man could have a pass. He was given a pass for life, but when the antipass law went into effect the court held that the pass was void; that it was contrary to law. I have not given a proposition that was contrary to law. There is not anything criminal in my position. There is not anything criminal in saying to the Senator from North Dakota, you have a right to live on the farm. There is nothing illegal about that. But if the legislature should pass a law and the Supreme Court should hold it to be unconstitutional, that the Senator from North Dakota had no legal right to live on the farm, I presume he would be taken off before the year expired.

Mr. BORAH. I yield to the Senator from Montana.

Mr. WALSH. I observe that these colloquies grow rather more extensive and protracted than is intended, perhaps, by the interrupter at the time. Accordingly, I refrain now from asking some questions that I desire the Senator's views upon. I will probably reach them later.

I give notice that at the conclusion of the address of the Senator from Nebraska [Mr. NORRIS] to-morrow morning I shall, with the permission of the Senate, submit some remarks in connection with the legal proposition now being handled by the Senator from Idaho.

Mr. PITTMAN. Mr. President—

The VICE PRESIDENT. Does the Senator from Idaho yield to the Senator from Nevada?

Mr. BORAH. I yield.

Mr. PITTMAN. For the same purpose stated by the Senator from Montana, with the consent of the Senate, I give notice that, following the Senator from Montana to-morrow, I will discuss this bill.

Mr. McCUMBER. Mr. President—

The VICE PRESIDENT. Does the Senator from Idaho yield to the Senator from North Dakota?

Mr. BORAH. I yield to the Senator from North Dakota.

Mr. McCUMBER. Before the Senator from Nebraska [Mr. NORRIS] leaves I would like to have a little further elucidation of the proposition that he makes. The bill provides that the city of San Francisco shall grant to a certain district at least a given amount of water.

Mr. NORRIS. No. I beg the Senator's pardon. The bill does not provide anything of the kind.

Mr. McCUMBER. Will the Senator give me a statement of what the bill does provide in that respect?

Mr. NORRIS. The bill provides that San Francisco shall recognize the right of a certain district to so much water.

Mr. McCUMBER. That is, to a given quantity of water?

Mr. NORRIS. Yes; a given quantity.

Mr. McCUMBER. There is not much difference in the two propositions.

Mr. NORRIS. I think there is a difference.

Mr. McCUMBER. It recognizes a water right now as between San Francisco and that district. Suppose that the district should afterwards insist that she would have a right for a greater amount of water, does the Senator then contend that the contract between the city of San Francisco and the Federal Government should control the policy of the State of California?

Mr. NORRIS. Oh, no; it would not even estop her; it could never be offered in evidence. If the district is entitled under the laws of California to more water, there is not a thing in the bill that will interfere with her getting it. That is the object, at least, as I understand it. There is no other excuse, as I see it, for putting that provision in the bill. It is that as a matter of fact these irrigationists are told, whether they would be able to prove it under the law, that they are entitled to this much water.

Mr. McCUMBER. Then does the Senator concede the exclusive jurisdiction of the State of California over the flow and distribution of the water notwithstanding any contract between the city of San Francisco and the Government based upon his construction?

Mr. NORRIS. I do not believe I would want to answer that question right offhand.

Mr. McCUMBER. Then I would like to know where the Senator draws the line, because it does become important in the construction of the bill.

Mr. NORRIS. It becomes important, I think, only to the extent that San Francisco would be estopped from denying the

right of these districts to use the amount of water that is mentioned in the bill. If there were a lawsuit—

Mr. McCUMBER. I can not imagine—

Mr. NORRIS. I am going to illustrate it. I will not do it without the consent of the Senator from Idaho [Mr. BORAH].

Mr. BORAH. I yield.

Mr. NORRIS. I am not going to discuss it and I am not going to take up the time of the Senate in that way.

Mr. BORAH. I would be glad to have the Senator do so. Suppose San Francisco would refuse to recognize this. What would be the remedy of the farmer?

Mr. NORRIS. I think the farmer could get it in two ways. I think if he applied to the proper officials of the United States, they would commence an action against San Francisco. They could take away their right entirely. They would be entitled to it under the State courts, however. Without reference to the act at all they could go into the court, without regard to this provision, under their State regulations, whatever the law, and set up a claim, and if they could prove that if they were entitled to more water than the quantity that is named they would be entitled to get it. San Francisco in that kind of a lawsuit would be estopped from denying that they were entitled to at least this much.

Now, what else is the objection to this particular provision in the bill, if that is not it? Suppose two Senators were in litigation about the amount of water that the Senator from North Dakota had acquired in a certain stream. Suppose he claimed that he was entitled to 1,000 feet, and that was denied by the Senator from Idaho in the litigation. When they came to trial it might be well understood by the Senator from Idaho that he was getting 500 feet, and one of them would say in open court—the stenographer would take it down—it is conceded that the Senator is entitled to 500 feet, so as to shorten the proceeding.

If it were not for the provision of the bill, let us see what would happen if these irrigationists were not entitled to the amount of water named in the bill. Suppose they were only entitled to 1,800 feet. I believe if they came to a test of that, that would be about all they would have a right to claim that they were entitled to. Let us assume that is true, whether it is or not, just for the sake of illustration. If that provision was not in the bill, that would be all they could get under the California law. With this provision in the bill, San Francisco says we recognize her right to so much more.

Mr. McCUMBER. Suppose San Francisco should say a year hence, or 10 years hence, that we have acknowledged that she has a right to so much, but the conditions are such that San Francisco needs a greater amount, does the Senator mean to say that San Francisco would be estopped from denying the right of any other section to any given amount of water simply because she has contracted for doing so in the bill?

Mr. NORRIS. She has not contracted; she has simply recognized a right. That is bringing about a condition, however, that is not involved in the proposition I was discussing. The Senator has now submitted a proposition that is entirely different, and, as I understand the facts, an impossible proposition. I understand that there is no such condition existing.

Mr. McCUMBER. It is not a question of whether that exists to-day.

Mr. NORRIS. I will admit that it is not.

Mr. McCUMBER. If the Senator from Idaho will permit me, I will say nor is it an impossible condition.

Mr. NORRIS. It is impossible to state a condition that could not possibly arise.

Mr. McCUMBER. Just a moment. I can not understand how the law of estoppel can affect the right of any citizen in the State of California when that right is based upon a contention that is inimical to the laws of the State of California. If you can not obtain by a direct contract a right to control the waters in any way, shape, or manner, it certainly can not be obtained under an indirect method of estoppel. If you can not contract away the sovereignty of your State over its waters directly you can not contract it away by any system of estoppel that would affect San Francisco or would affect the other sections—

Mr. NORRIS. There is not—

Mr. McCUMBER. Just a moment. And if you can not estop San Francisco, you can not estop the other parties from making any kind of a claim they see fit to their own State for any added relief in the shape of water. So I can not see where the theory of estoppel can possibly be used on the one side or on the other side of this controversy.

Mr. NORRIS. The Senator has made his question or proposition so long that I may not have gotten it correctly.

Mr. McCUMBER. That is possibly true.

Mr. NORRIS. But, as I understand, he makes this proposition: Suppose in this case that a third party comes in, that there is a shortage of water, and the third party says to San Francisco: "You are giving to this irrigation district 2,350 feet of water, when they are entitled to only 1,800 feet under the laws of California. I am short of water. I am entitled under the laws of California to some water, and I ought to have the surplus water." As I understand, that is the proposition which the Senator has raised, and it is one which I said was not involved in the original proposition found in the bill.

Mr. McCUMBER. No.

Mr. NORRIS. That brings a third party into it, and it is a question of law that it seems to me would be determined under the laws of California. If it could be established under the law that they were giving too much water, and there was litigation over it, the complete answer of San Francisco would be to come in and say: "Under our charter we must recognize this right. If the court takes it away, however, it is immaterial to us to which one of these people the water goes." I think that would be very easy for San Francisco, and the only proper course for her to pursue if such a condition arose.

I have said to the Senator, and I believe it, that all the water of this stream is filed on, and a great deal more than there is in the stream is filed on. As between these irrigation districts and San Francisco there is not any question but that all the water has been legally taken. There is not any third party. So that contingency would not arise.

Mr. CLARK of Wyoming. Mr. President—

The PRESIDING OFFICER (Mr. MARTINE of New Jersey in the chair). Does the Senator from Idaho yield to the Senator from Wyoming?

Mr. BORAH. I yield to the Senator from Wyoming.

Mr. CLARK of Wyoming. That was just the subject of an inquiry which I made two or three weeks ago of the Senator from Colorado [Mr. THOMAS] to ascertain the amount of water that there was tributary to this stream and how much had been filed on. I said then that I thought I could probably discover it somewhere in the reports, but I have been unable to discover it accurately. The Senator says that there is no question but that all the water has more than been legally appropriated. I should like to find that information which the Senator has, and ascertain it definitely.

Mr. NORRIS. I understand that the irrigation district filed on 9,000 feet, and something more, did it not? There is not that much water in the stream.

Mr. CLARK of Wyoming. That is what I want to ascertain. How much is there in the stream and how much is there tributary to the stream?

Mr. NORRIS. The flow of the stream is given in several of the reports—

Mr. CLARK of Wyoming. Oh!

Mr. NORRIS. But as to the exact amount of acre-feet I can not tell the Senator.

Mr. CLARK of Wyoming. The Senator must understand that the natural flow of a stream cuts very little figure on the amount of irrigating water that can be drawn from the stream. The reservoiring of the stream so as to maintain the flood waters and surplus waters of the watershed, more than anything else, is what determines the value of the stream for irrigation, and not the natural flow of the stream at all.

Mr. POINDEXTER. Mr. President—

The PRESIDING OFFICER. Does the Senator from Idaho yield to the Senator from Washington?

Mr. BORAH. I yield to the Senator from Washington.

Mr. POINDEXTER. I should like to give notice in the ordinary form that at the conclusion of the remarks of the Senator from Nevada [Mr. PITTMAN] upon the pending bill I shall ask leave to address the Senate upon the subject.

I should like to lay upon the Secretary's desk a number of photographs of the Hetch Hetchy Park, which it is proposed to flood under the San Francisco project, showing in a better way than any descriptive words could do the natural features and beauties of that piece of the Yosemite Park.

Mr. CLARK of Wyoming. Mr. President—

The PRESIDING OFFICER. Does the Senator from Idaho yield to the Senator from Wyoming?

Mr. BORAH. I yield to the Senator from Wyoming.

Mr. CLARK of Wyoming. Mr. President, following the apparent habit of the Senate this afternoon, I desire to give notice that immediately after the conclusion of the remarks by the Senator from Washington [Mr. POINDEXTER] upon the pending bill I shall ask to address the Senate.

Mr. BORAH. I know how very earnest the Senator from Nebraska [Mr. NORRIS] is about his views in regard to this matter, and I know that he would not have consented to the report

of the bill in its present form if he had not believed that some of the things could be done which they are attempting to do; but now I invite the Senator's attention and the attention of the Senate again to the situation which will arise in case the city of San Francisco should refuse to recognize the conditions in this grant with reference to the water rights of the farmers of the San Joaquin Valley. In the first place, if San Francisco should refuse to recognize those rights, the question would arise whether or not she was estopped from denying the rights, they being set forth in her grant. I have not any doubt but that she would be permitted to deny them for the reason that the provision is one the grantor has no power to make; and, being illegal and without authority of law, it can never work as an estoppel. I think that matter is pretty well settled by law, and I read some authorities upon it. I do not know whether or not the Senator from Nebraska was present at the time I did so, but, if he will take the time to examine the authorities, he will find that, although at the time it was made it was illegal, or afterwards became illegal, it works not as an estoppel upon anyone. If we are correct, therefore, in our position that it is illegal, of course it would not be an estoppel upon San Francisco. As I said last night, the only possible effect of it would be to embarrass the farmers. It might be an estoppel as to them, for the reason that when they appeared here by their agents they appeared here in their individual capacity, having a right that they might waive and dispose of as individuals; and, therefore, it might be embarrassing to them to go into court and, after San Francisco has expended hundreds of thousands of dollars, say that they would not be permitted to say contrary to what they had said before she spent the money. That is a principle of estoppel which might work against an individual, but here—

Mr. NORRIS. Mr. President—

The PRESIDING OFFICER. Does the Senator from Idaho yield further to the Senator from Nebraska?

Mr. BORAH. In just a moment, when I get through with my statement.

But here is the city of San Francisco taking a grant which does not provide for any forfeiture. I call the Senator's attention to the fact that there is no forfeiture provided for by reason of San Francisco's failure to comply with that provision. The only remedy which the farmer would have would be one of damages; and the Senator from Nebraska knows what a consolation it is to a farmer whose crops are burning up and whose land is becoming utterly useless to him by reason of the lack of water to have the right to bring a lawsuit against a city which may, with its salaried attorney, litigate him through the courts.

Mr. NORRIS. The Senator contends—

The PRESIDING OFFICER. Does the Senator from Idaho yield to the Senator from Nebraska?

Mr. BORAH. I yield.

Mr. NORRIS. The Senator contends that that particular provision of the bill is absolutely unconstitutional, as I understand?

Mr. BORAH. Yes.

Mr. NORRIS. So that the condition on account of which, at least, the evils that he has pointed out might flow could not arise. He is spending his time and we are having a discussion over a provision which, if the Senator's theory is true, could have no legal effect anyway; and it will be just the same whether you leave it in or strike it out.

Mr. BORAH. That is true; but I want the Senator not to forget—

Mr. NORRIS. I do not agree with that contention, I will say to the Senator; I am not consenting to that; but that is the Senator's view.

Mr. BORAH. But, Mr. President, that was put in there in the belief that it was binding and that it would be effectual for the farmers, and upon that they based their consent.

Mr. NORRIS. It does not pretend to be binding upon the farmer. From its very terms it does not bind the farmer.

Mr. BORAH. I will show you in a few moments. Now, we will read on. First, perhaps, in order to refresh the Senator's memory, I had better read that provision again, although we are pressed for time:

(b) That the said grantee shall recognize the prior rights of the Modesto irrigation district and the Turlock irrigation district as now constituted under the laws of the State of California.

Would not San Francisco have to do that without that provision being there?

Mr. NORRIS. I think so, if they had a right.

Mr. BORAH. If they did not have a right, of course she would not recognize that which they did not have.

Mr. NORRIS. If they did not have any right, she would certainly recognize what is put in there.

Mr. BORAH. In other words, the Senator thinks that it is within the power of Congress to compel San Francisco to recognize something that the farmers have not got—that is, to distribute the waters of the State by act of Congress.

Mr. NORRIS. I think so.

Mr. BORAH. The bill provides:

(b) That the said grantee shall recognize the prior rights of the Modesto Irrigation district and the Turlock Irrigation district as now constituted under the laws of the State of California, or as said districts may be hereafter enlarged to contain in the aggregate not to exceed 300,000 acres of land, to receive 2,350 second-feet of the natural daily flow of the Tuolumne River, measured at the La Grange Dam, whenever the same can be beneficially used by said irrigation districts, and that the grantee shall never interfere with said rights.

Who is to determine when "the same can be beneficially used by said irrigation districts"?

Mr. NORRIS. I presume it would be determined just as though that particular provision were not in there. The same difficulty might arise over that very thing if the provision were not there.

Mr. BORAH. But this says that San Francisco shall recognize the right whenever the water may be applied to a beneficial use.

Mr. NORRIS. Yes.

Mr. BORAH. Well, does that give San Francisco the power to say in the act of recognition that it is or is not being applied to a beneficial use?

Mr. NORRIS. No; I do not think San Francisco would have a right to say that any more than she would have a right to say that the irrigation districts were not entitled, as a matter of fact, to anything. I do not claim that.

Mr. BORAH. Somebody must determine "when the same can be beneficially used."

Mr. NORRIS. Exactly; but suppose we struck that out. The Senator can not make anything that is automatic that will not involve a possibility of litigation. If he can, I should like to have him do so.

Mr. BORAH. Wait a moment until I get through. The expression used is:

Whenever the same can be beneficially used by said irrigation districts.

Now, somebody must determine the question of beneficial use. If they are going to recognize—I am proceeding upon the Senator's theory that it is binding; I am accepting his theory now—if they are going to recognize this 2,350 feet "whenever the same can be beneficially used by said irrigation districts," who is going to determine it? It is legal; it is binding we will say; but who is going to determine when "the same can be beneficially used"?

Mr. NORRIS. Whatever machinery is provided for by the laws of California for that purpose.

Mr. BORAH. Then, in the first place, if there is a dispute they must go into court and establish their beneficial use, and after that is established San Francisco will recognize it.

Mr. NORRIS. If we struck out that provision and put nothing there except what is in section 11, or words to the same effect as those in section 11 of the bill, suppose, then, that San Francisco said "there is not an irrigation district; there never was one;" or suppose she said "you are not entitled to more than 300 feet," or suppose she said "you are not using this for beneficial purposes." All those questions might arise. As I understand, the courts of California are the proper machinery for determining those difficulties.

Mr. BORAH. Then, the Senator from Nebraska realizes the point at which he has arrived, and that is that this contract settles nothing; that you have got to go to the courts to settle it, anyway.

Mr. NORRIS. No. In the first place, it is not a contract; it is simply a statement of one of the conditions that San Francisco must adhere to, that she will recognize the right of these irrigation districts to use so much water, and that that right to that extent shall be superior to her own. But if the irrigation districts were using the water for some purpose which under the laws of California was not a beneficial purpose, even with that provision in the bill, would she not have a right, and ought she not to have a right, to say, "They are not using it for that purpose; instead of using it, they are running it down into the ocean and not using it at all?" Does the Senator think that could occur?

Mr. BORAH. The Senator has now returned to the proposition that San Francisco is going to determine whether or not the water is devoted to a beneficial use.

Mr. NORRIS. The Senator has not. The Senator has said that San Francisco must recognize as a prior right the right of the irrigation districts to take so much water.

Mr. BORAH. Provided it can be beneficially used.

Mr. NORRIS. The Senator ought to be fair, and I do not think he is quite fair, because he is setting forth difficulties with the provision to which he objects in the bill that he must know would arise if that provision were out or difficulties which could come up just the same.

Mr. BORAH. I am going to be fair; I am going to argue it upon the Senator's contention. You say that the law is binding; you say that it is valid; that it is such a provision as we have a right to make. Now, I am going to argue it upon that basis. I do not think it is tenable, but I am going to accept that proposition. Now, let us see where you arrive and what consolation the farmer gets out of this situation:

(b) That the said grantee shall recognize the prior rights of the Modesto Irrigation district and the Turlock Irrigation district as now constituted under the laws of the State of California, or as said districts may be hereafter enlarged to contain in the aggregate not to exceed 300,000 acres of land, to receive 2,350 second-feet of the natural daily flow of the Tuolumne River, measured at the La Grange Dam, whenever the same can be beneficially used by said irrigation districts, and that the grantee shall never interfere with said rights.

I know of no one who can determine the question of beneficial use except the courts under the laws of the State of California. Then, if no one can determine it except the courts under the laws of the State of California, you have not arrived anywhere or settled anything, for the reason that if they had to go to the courts of California and settle it under the laws of California they would go just the same, whether this provision was in here or out of here; so this does not help any.

Mr. NORRIS. Not necessarily. If you would assume that, as a matter of fact, the irrigation districts were not entitled under the laws of California to that much water, there would be where the difference would come in. If it is correctly stated, then they would get the same amount of water whether the provision is in or out. I should like to have the Senator at least get the theory as I understand it. I did not draft the bill; I did not draw the provision; but I understand from those who did that the theory of it was—and that was the reason why the irrigationists, represented, as they were, at the time by able men, were anxious to have the provision in the bill—that there was at least a great deal of doubt of their ability to prove that they were entitled as a matter of law to the amount of water stated in this bill, and so they demanded that it should recognize their right to the amount set forth. The provision was put in on that account.

Mr. BORAH. Yes; I understood the theory upon which it was put in, but I have never believed it was a thing which could be accomplished in this way; and that is what I am trying to show.

Having discussed subdivision (b), we will pass to subdivision (c):

(c) That whenever said irrigation districts receive at the La Grange Dam less than 2,350 second-feet of water, and when it is necessary for their beneficial use to receive more water, the said grantee shall release free of charge, out of the natural daily flow of the streams which it has intercepted, so much water as may be necessary for the beneficial use of said irrigation districts not exceeding an amount which, with the waters of the Tuolumne and its tributaries, will cause a flow at La Grange Dam of 2,350 second-feet.

There we have a provision that whenever the irrigation districts receive at the La Grange Dam less than that amount, the city of San Francisco shall turn out, free of charge, a certain amount of water.

Does the Senator think the farmers down there could compel the city of San Francisco to turn it out under this provision? I have no doubt he does think so. There is where we differ. I think San Francisco could snap her fingers at the farmers of the San Joaquin Valley, and the farmers would have to depend entirely upon the doctrine of priority and settle their rights under the laws of California, and this provision would avail them nothing. This is a grant in present. The grant takes effect the minute the grant is delivered. There is no forfeiture clause in it with regard to this. The farmers of the San Joaquin Valley could not bring an action of forfeiture. No one could bring an action of forfeiture except the Government itself, and that only upon two grounds. If they did not turn it out, if they refused to have brought an action of mandamus, the city of San Francisco could say: "That is a provision which was contrary to the laws of the United States, and we are not bound by it."

Mr. NORRIS. But that is not a provision that is contrary to the laws of the United States.

Mr. BORAH. There is where we differ.

Mr. NORRIS. Yes; I know we do. It seems to me that is one of the conditions that we can very properly put in this grant.

Mr. BORAH. Let us see about that. [Reading:]

(c) That whenever said irrigation districts receive at the La Grange Dam less than 2,350 second-feet of water, and when it is necessary for their beneficial use to receive more water, the said grantee shall release free of charge—

Who owns this water that the city of San Francisco is releasing? It belongs to the State of California. You are now disposing of that which belongs to the State, and you say that San Francisco shall turn over to a particular individual what the State of California says may be turned over to somebody else. You say here that San Francisco shall turn it over to Mr. A. The State of California may say it shall be turned over to Mr. B.

Mr. NORRIS. But the particular water with which the Senator is now dealing belongs to the irrigation districts.

Mr. BORAH. Oh, no.

Mr. NORRIS. Yes, indeed.

Mr. BORAH. No; you have already fixed that in subdivision B.

Mr. NORRIS. Yes; but the Senator now has a case where there is not that much, and they are required to turn out enough of the water they have impounded to make that much.

Mr. BORAH. I will say to the Senator that the bill does not provide that at all. It says:

Whenever said irrigation districts receive at the La Grange Dam less than 2,350 second-feet of water, and when it is necessary for their beneficial use to receive more.

Mr. NORRIS. Yes.

Mr. BORAH. It might be necessary for me to have a thousand inches of water upon my farm, to which I might never have acquired title.

Mr. NORRIS. But the city of San Francisco, under the grant, is recognizing the right to have 2,350 feet. The Senator is stating now a case where at the dam there is not that much, so the grantee must release enough to make that much.

Mr. BORAH. Yes; but she is releasing water that does not belong to her, unless the laws of California and the courts adjudicate it to belong to her.

Mr. NORRIS. No; if the irrigation people are entitled to that water, then it is their water. They have a property right in it.

Mr. BORAH. Then, if it belongs to the irrigation districts, and is their water, San Francisco has nothing to do with either releasing it or holding it.

Mr. NORRIS. She would be in a pretty bad fix if the dam were built there and you should say she must not hold the water and she must not release it. That would be a pretty serious proposition. She would have to do one or the other.

Mr. BORAH. According to what the State of California has said; not what we say.

Mr. BRANDEGEE. Mr. President—

Mr. BORAH. I yield to the Senator from Connecticut.

Mr. BRANDEGEE. Mr. President, if the bill provides that the grantee shall furnish these irrigation districts 2,350 second-feet of water, and if section 11 of the bill provides in substance that nothing in the bill shall be construed to authorize anything contrary to or different from what the laws of the State of California prescribe, and if the laws of the State of California should be contrary to this condition, does not the Senator think the condition of which he complains would fall and be of no effect?

Mr. BORAH. Precisely so.

Mr. BRANDEGEE. I have heard Senators state that the provision in the bill to which the Senator is now alluding in some way encroaches upon State rights. Will the Senator point out in what respect it does, if he thinks it does? I am asking solely for information.

Mr. BORAH. I have not stated that the bill actually encroaches upon State rights, but I state that we assert the power to do things which would be an encroachment upon State rights. We can not encroach upon State rights by an act of Congress, as a matter of fact, for somewhere along the line will be found a tribunal with the knowledge and the courage to declare our efforts futile. I believe we should not seek to do it.

Mr. BRANDEGEE. No; not constitutionally, of course.

Mr. BORAH. We can not do it in contemplation of law. Of course we may do it, and the States may accede to it, and it may work out. That is the vice of this proposed legislation, if all parties will consent.

Mr. BRANDEGEE. How could compliance by some city with an unconstitutional provision of an act of Congress, as the Senator says, work out anything in derogation of the Constitution of the United States?

Mr. BORAH. Suppose this grant were carried out here as between the parties and the city of San Francisco and the irrigation districts should undertake to distribute the water to which they were entitled, respectively, by reason of their prior appropriations, contrary to the provisions which the laws of California make with regard to it. The actual operation of the thing would be contrary to the laws of the State of California, but it could be stopped at any time anybody had a mind to stop it.

Mr. BRANDEGEE. That is the way it seems to me. Of course, the fact that somebody was complying with a condition that Congress had no right to impose would not, I assume, in the Senator's opinion, have the slightest effect upon any court in its determination of a constitutional question that might be presented to it.

Mr. BORAH. Oh, no. There is the very vice of this legislation. We say it would not have the slightest effect upon any court, and yet when the attorney came into court with this grant he would say, "Here is a grant which the Congress of the United States, after most earnest debate and consideration, asserted the right to make, and here are the terms which it asserted the power to make. It was the solemn declaration of the Congress of the United States as to its constitutional power to do this thing." Is it not a well-established rule that the courts in construing a statute which a Congress has solemnly passed will resolve all doubts in favor of it simply and solely by reason of the fact that it has received the affirmation of Congress?

Mr. BRANDEGEE. I think no doubt the courts in every case, both State and Federal, will attempt to sustain the constitutionality of statutes; and the presumption is that they are constitutional until their constitutionality is disproven.

Mr. BORAH. Yes.

Mr. BRANDEGEE. I do not, however, wish to interrupt the Senator now if he objects to it.

Mr. BORAH. No; I would just as soon be interrupted as not.

Mr. BRANDEGEE. It seemed to me that the imposition or attempted imposition of a condition in this bill, assuming that we had no authority to make it or to reserve it, was utterly void. I am as much opposed as the Senator is to the use of language that is not necessary or to the interpolation in statutes of things that I do not believe we have authority to put in. But let me ask this question of the Senator, and then I will subside:

If the Government owns this land in fee and is giving to somebody a right of way over it, why has it not a right to impose as a matter between grantor and grantee any condition that it chooses to impose, irrespective of the powers conferred upon the Congress of the United States by the Constitution? I mean, why can not that be done by the Government acting as a proprietor of land and making a deed or a grant to this grantee? Why could it not put in here, if it wanted to, a condition—and if it did wherein would it differ in principle from the present one—that this grant should operate only in case California continued to have woman suffrage or in case it should agree to plant one-quarter of the State in wheat instead of in grapes? What has a condition reserved in a grant to do with the question of who owns the water within a State?

Mr. BORAH. Mr. President, suppose we should put in a bill such asinine provisions as the Senator suggests; would the Senator, under his oath as a Senator to support the Constitution of the United States, be willing to add his solemn sanction to a law which carried such impossible, illegal, and unconstitutional provisions?

Mr. BRANDEGEE. Mr. President, I am talking about whether it is illegal or not. Of course, the Senator must not beg the question. I am assuming that the owner of a piece of land has a right to grant an easement to somebody seeking it upon any conditions that he has a mind to contract with the grantee to impose. If the grantee thinks they are absurd or fantastic, he need not accept the grant. But why can not the grantor, if he can deed the whole of it absolutely in fee simple, deed a right of way over it subject to any condition, no matter how fantastic?

Mr. BORAH. Of course he can do that. I have no doubt he can do it.

Mr. BRANDEGEE. Then this would not be void.

Mr. BORAH. If we are discussing this bill upon the theory suggested by the Senator from Connecticut; if we are willing to put into a bill anything that may secure its passage through the Congress, any provision which may seem palatable to anybody who is interested, merely on the theory that it is a proprietary grant, of course there is nothing to prohibit us from doing it. In that event the courts will afterwards say: "The Congress of the United States has done all these ridiculous things and has sacrificed and compromised its position as a legislative body. We will hold this law utterly and absolutely void, because the things which were put in are not proprietary powers at all, but they are attempts to control sovereign powers of the State or of the National Government."

Undoubtedly we can do that; but the Senator from Connecticut is just as far from legislating upon that theory as is the Senator from Idaho. He would strip a bill of the things which are unreasonable or impossible or unconstitutional or illegal, if he thought them to be so, just as quickly as would anyone else in the Chamber.

My contention is that they are not putting in here things which appertain to the power of a proprietor in deeding land, but that they are asserting here certain governmental functions in connection with it, and that we as a Congress are lending our sanction to the assertion that they have the right to put them in.

Mr. BRANDEGEE. Mr. President—

The PRESIDING OFFICER (Mr. ROBINSON in the chair). Does the Senator from Idaho yield to the Senator from Connecticut?

Mr. BORAH. Yes; I yield.

Mr. BRANDEGEE. Of course I can not control nor even hope to change the Senator's view, if that is the view he takes about it; but I simply say that if in the end I should vote for this bill it would not be with any idea that I acceded to the claim, or wanted to establish a precedent or do anything in the nature of making it easy for the National Government to claim, that it owned within the borders of a State the waters of a nonnavigable river or had a right to sell them. It is because I take the view that the Government is acting merely as a proprietor of land, and has a right to attach any conditions to it, that I think, on my theory of the matter, I should not be inconsistent if in the end I should vote for the bill, although I do not know whether I shall or not.

Mr. BORAH. But permit me to say to the Senator from Connecticut that we do put into this bill provisions which distribute, redistribute, and apportion the waters of the State of California.

Mr. BRANDEGEE. The question is, Are we doing it as a government, under a claim of right to do it if we did not own the land, or are we doing it just as any other proprietor of land could do it?

Mr. BORAH. The proprietor of land does not own any water in California.

Mr. BRANDEGEE. I have heard it asserted again and again that the State of California owns this running water. Now, perhaps it does.

I am not quite clear who does own the water that runs down from the peaks of the mountains to the sea, and is evaporated and brought back to the peaks of the mountains again. Who owns it I do not know, but I am quite sure the National Government does not own it in the midst of a State; and I am quite sure the only function the National Government has in connection with it is to regulate commerce.

Mr. BORAH. We agree upon that.

Now, Mr. President, proceeding a little further with the bill, as the hour for adjournment has not yet arrived, subdivision (d) says:

That the said grantee, whenever the said irrigation districts desire water in excess of that to which they are entitled under the foregoing, shall, on the written demand of the said irrigation districts, sell to the said irrigation districts from the reservoir or reservoirs of the said grantee such amounts of stored water as may be needed for the beneficial use of the said irrigation districts at such a price as will return to the grantee the actual total costs of providing such stored water.

There it will be observed that the bill provides for the sale of certain water, although it is contended constantly here that we are not undertaking to dispose of the water of this stream. I want to read another section of it:

as will return to the grantee the actual total costs of providing such stored water, such costs to be computed in accordance with the currently accepted practice of public cost accounting as may be determined by the Secretary of the Interior, including, however, a fair proportion of the cost to said grantee of the conduit, lands, dams, and water-supply system included in the Hetch Hetchy and Lake Eleanor sites.

There is a provision which, while not very interesting to the Senate of the United States, would be a very interesting proposition if a farmer were called upon to pay under that provision. It says that he shall "return to the grantee the actual total costs of providing such stored water," if they sell to these parties, the "costs to be computed in accordance with the currently accepted practice of public cost accounting, as may be determined by the Secretary of the Interior, including, however, a fair proportion of the cost to said grantee of conduits, lands, dams, and water-supply systems included in the Hetch Hetchy and Lake Eleanor sites."

So when the farmer in the San Joaquin Valley comes to have the price fixed which he is to pay for the water, he is not in the position of the farmer who can go direct to the stream and divert it, but he must apply to San Francisco, and San Francisco can charge up as a part of the price a portion of the cost for the construction of this vast system of reservoirs; of course, I assume, a fair proportion. I am assuming that, but nevertheless the farmer must, under those circumstances, have an accounting between himself and San Francisco, which will practically adjudge and determine what portion of the cost of the construction of this reservoir system shall be charged up to the price of the water which he uses upon his farm.

Mr. President, having had some experience in irrigation districts, and having observed the condition of affairs in the midst of a summer where water is scarce; having passed through a section of the country where farms were burning and where the farmer was witnessing the destruction of his year's labor, the entire expenditure of the year going in 30 days, I look upon some of the provisions in this grant, so far as the lands of San Joaquin are concerned, as nothing less than cruel. To say to them that you shall travel to the city, or if not to the city to the Secretary of the Interior at Washington, who may be upon his summer vacation, hidden away in the recesses of the mountains, in order to get water upon your farm before the crop shall be destroyed. If a man were a bonanza farmer, with his millions, and his salaried lawyer standing guard for his interests, he might possibly keep track of the situation; but what of the numberless farmers who are unable to employ counsel for such tremendous enterprises? What of those who are simply, in the first instance, going into the community and trying to build up their farms, those who must struggle with might and main to make both ends meet at the end of the year, then to say to them, "Yes; you shall have water." When? Whenever the city of San Francisco says you are using it for a beneficial purpose; or, if there is a disagreement between San Francisco and yourself, when the Secretary of the Interior shall determine it; or, if the Secretary of the Interior can not be found, then when the courts of California shall determine it. A farmer came to my office some time ago from this region of the country.

Mr. WALSH. Mr. President—

Mr. BORAH. I will yield in just a minute. I said to him, "What is the objection of the farmers of the San Joaquin Valley to this enterprise? I want to know from you." He said, "The objection we have is in placing that tremendous power at the source of our water supply, a power with which we can not cope, which practically controls the situation, owns the reservoir, the conduit, the ditches. They may turn water on or turn water off, and we would be powerless, except after endless litigation, year after year, to get our rights, until finally we would give up and move out."

I yield to the Senator from Montana.

Mr. WALSH. Mr. President, most of us over here had a kind of an idea that San Francisco would be dealing with these two irrigation districts. Will the Senator kindly call our attention to those provisions by which the individual farmers will be called upon to deal with San Francisco, and likewise why these irrigation districts would not be able to employ counsel?

Mr. BORAH. Mr. President, I am not familiar with the ideas which prevail over there or how they arise.

Mr. KENYON. Mr. President—

The PRESIDING OFFICER. Does the Senator from Idaho yield to the Senator from Iowa?

Mr. BORAH. Certainly.

Mr. KENYON. Was not that farmer willing to give up the rights he thought he might have to this water in order that there might be some cheaper electric power generated for that country?

Mr. BORAH. I do not know.

Mr. KENYON. He did not express himself?

Mr. BORAH. No.

In answer to the suggestion of the Senator from Montana, but there are over 200,000 acres of land in that valley which need water, and I claim the right, and it is just as much my duty here to speak for the farmer who is coming in, for the settler, and for the home builder, for the man who is to arrive and take charge of those farms and build them up and make homes out of them, as to speak for those who happen to have been there and to have established their rights.

Mr. WALSH. Just because it may help us somewhat I will state that this is for the purpose of storing surplus water. We understand that the natural flow of the river except at flood time is now all appropriated and all used. It would be helpful to the Senate if the Senator would go on now and explain how a new settler, a farmer, an individual settler, who comes into that country after this time, will be able to get any water out of that stream except some dam is put up above, such as the bill contemplates, for the purpose of storing the water.

Mr. SMOOT. Mr. President—

Mr. BORAH. I ask the Senator to wait just a moment. If I understand the Senator from Montana correctly, he assumes that farmers who would go in there would be in no better position if they should organize and build and own and control their own dam with the water rights than if the reservoir were granted to the city of San Francisco, under which San Francisco would control the whole situation. Of course, the farmers might combine and organize districts and act col-

lectively, but the expense would still have to be met in the first instance by the individual farmer.

Mr. WALSH. That is the real crux of the situation. It is simply a question now, as I understand it, whether we shall authorize San Francisco to construct this dam and store these waters or whether we will allow them to run away to the ocean for 10 years more, until an irrigation district is created which will come down here to Congress to ask exactly the same privileges—to construct a dam in the Hetch Hetchy Valley for the purpose of storing these waters and irrigating these 200,000 acres of land.

Mr. BORAH. That is one of the propositions here.

Mr. WALSH. That is the proposition.

Mr. BORAH. I am glad to have it so.

Mr. WALSH. I am very glad to hear the Senator's answer.

Mr. BORAH. I am going to discuss that later, and I shall be pleased by his presence when I come to discuss it.

The PRESIDING OFFICER. Does the Senator from Idaho yield to the Senator from Utah?

Mr. BORAH. I yield.

Mr. SMOOT. Mr. President, I think these questions are worthy of most serious consideration. There are very few Senators in the Chamber, and I suggest the absence of a quorum.

The PRESIDING OFFICER. The Senator from Utah suggests the absence of a quorum. The Secretary will call the roll.

The Secretary called the roll, and the following Senators answered to their names:

Ashurst	Gore	Overman	Stone
Bacon	Hollis	Owen	Sutherland
Borah	Hughes	Page	Swanson
Brady	James	Perkins	Thomas
Brandeggee	Jones	Pittman	Thompson
Bristow	Kenyon	Pomerene	Thornton
Bryan	Kern	Reed	Townsend
Burton	Lane	Robinson	Vardaman
Chamberlain	Lewis	Saulsbury	Walsh
Chilton	McCumber	Shafroth	Warren
Clapp	McLean	Sheppard	Weeks
Clark, Wyo.	Martin, Va.	Shields	Williams
Clarke, Ark.	Martine, N. J.	Shively	Works
Colt	Nelson	Smith, Ga.	
Dillingham	Norris	Smith, Md.	
Gallinger	O'Gorman	Smoot	

The VICE PRESIDENT. Sixty-one Senators have answered to their names. There is a quorum present. The Senator from Idaho will proceed.

Mr. BORAH. Mr. President, it has been often asserted in this debate that the bill does not attempt to dispose of the waters of California. I concede that it does not attempt to determine the original title to the waters of the State of California, but I do assert that it undertakes to dispose and distribute and redistribute the waters of the State as between the residents of the State of California. That is dealt with all through the bill. I will read a few passages in order that it may be seen to what extent they undertake to dispose of this water:

(d) That the said grantee, whenever the said irrigation districts desire water in excess of that to which they are entitled under the foregoing, shall on the written demand of the said irrigation districts sell to the said irrigation districts from the reservoir or reservoirs of the said grantee such amounts of stored water as may be needed for the beneficial use of the said irrigation districts at such a price as will return to the grantee the actual total costs of providing such stored water, such costs to be computed in accordance with the currently accepted practice of public cost accounting as may be determined by the Secretary of the Interior, including, however, a fair proportion of the cost to said grantee of the conduit, lands, dams, and water-supply system included in the Hetch Hetchy and Lake Eleanor sites.

Now, will anyone contend that that is not an effort to enforce the sale and disposition of the waters of California? Does it not prove that whenever the irrigation districts make a written demand there shall be a sale and transfer of title, an exchange of property for price? Is it not a disposition of the waters? Is it not a distribution of them? What is it? One of those idle things, I presume, put in to palliate. Further it says—

upon the express condition, however, that the said grantee may require the said irrigation districts to purchase and pay for a minimum quantity of such stored water, and that the said grantee shall be entitled to receive compensation for a minimum quantity of stored water and shall not be required to sell and deliver to the said irrigation districts more than a maximum quantity of such stored water to be released during any calendar year.

There is another clause providing for another matter of distributing between these parties, disregarding all other people's rights of these waters, I grant you, upon the assumption that they have acquired the original title from the State of California, but having acquired the title and put it into the reservoir and other parties desiring it, the bill undertakes to provide how it shall be sold and what price shall be paid and who shall fix the price. I think I am correct in that conclusion.

Provided, however, That if the said irrigation districts shall develop sufficient water to meet their own needs for beneficial use and shall

so notify in writing the Secretary of the Interior, the said grantee shall not be required to sell or deliver to said irrigation districts the maximum or minimum amount of stored waters hereinbefore provided for.

What are they doing there? The Government of the United States is constituting the city and county of San Francisco its agent to dispose of the waters of California in a certain way. It assumes, I will say, that its agent has acquired original title from the State, but as soon as it has done so the Government says that the disposition of it, the use of it, the price which shall be charged, and who shall use it shall be as follows. The sovereignty or the National Government says—and it selects the city of San Francisco for the purpose of performing that which should be performed by the water commission of the State of California—

(e) That such minimum and maximum amounts of such stored water to be so released during any calendar year as hereinbefore provided and the price to be paid therefor by the said irrigation districts are to be determined and fixed by the Secretary of the Interior in accordance with the provisions of the preceding paragraph.

They have provided for the sale and distribution, but then they say that the amount to be released and the price to be paid shall be fixed by whom? By the water commissioners of California, by a tribunal selected by the State of California to distribute the water, fix the price, and determine what shall be paid? Certainly not. But they say to whom it shall be sold, how the price shall be determined, and who shall fix the price. That is stated here in an act of Congress, and Congress selects the Secretary of the Interior to do the work.

I ask my friends what is there left to the sovereign authority of the State to fix the price of power, to fix the price of water, to fix the rates which railroads within a State may charge, if the Congress of the United States, under the guise of making a grant, can draw to itself the power to fix the rates through an instrumentality which it chooses, to wit, the Secretary of the Interior?

As was said by the Senator from Connecticut [Mr. BRANDEGEE], you can put all these things in, and they may be avoided; but we are inserting them, and inserting them as an authority which we have and as a power which we possess, and which we may legitimately under our oaths exercise.

I would not care so much about this proposition, and would take my chances upon the courts holding it unconstitutional, if they had not all gone into the bill by reason of an understanding with those who are vitally interested that they would be binding, and by reason of that fact they were led into a cul-de-sac, which, in my judgment, they are very anxious to get out of.

Again, notice what they are doing with reference to water on page 17, subdivision (h):

(h) That the said grantee shall not divert beyond the limits of the San Joaquin Valley any more of the waters from the Tuolumne watershed than, together with the waters which it now has or may hereafter acquire, shall be necessary for its beneficial use for domestic and other municipal purposes.

How does the city of San Francisco get its water, and how does it get its right to divert and the amount which it shall divert? It goes to the stream the same as John Doe or Richard Roe, and it posts its notice under the laws of the State of California. If it posts its notice for a certain amount and uses due diligence in the diversion of the water and the application of it to a beneficial use, it ripens into a title to that much water. If it does that, it is entitled to divert all that it has posted notice for and applies to a beneficial use. It is entitled to divert no more than it requires, under the laws of the State of California. But this says:

(h) That the said grantee shall not divert beyond the limits of the San Joaquin Valley any more of the waters from the Tuolumne watershed than, together with the waters which it now has or may hereafter acquire.

Suppose it desired to do otherwise; suppose it desired to divert water for the purpose of sale to other individuals than those named here and it should go upon the stream or should go to the source of supply, post its notice for that extra amount, and should put it into this reservoir which we are granting, and should begin to sell it to the other people at a price fixed by the laws of California or otherwise, would this provision of this grant restrain them in any way from doing that? They would simply say, "We have complied with the laws of the State of California. The Congress of the United States could not limit us in our right as a municipal corporation or as individuals from availing ourselves of all the virtues of the laws of California and acquiring all the property rights that we could acquire legitimately under those laws." Would that not be a complete and efficient answer just the same as it would be an answer to the several preceding paragraphs in which they undertake to limit, to dispose of, to distribute, to redistribute, and to fix the price of the waters in this State?

But, Mr. President, this all comes back to the proposition that this grant would be a very ineffective proposition in many ways.

for San Francisco if it were not for the fact that this reservoir site is the key to the situation, and we grant the reservoir site in unconditional terms; we place the title in a grant in present to the reservoir site, the only means practically for this entire community by which this water can be stored. That belongs to San Francisco; it is real property; and the moment it becomes real property the Congress of the United States can impose no terms or conditions. It is controlled from that hour by the laws of California; and San Francisco is in the same position, as I said a moment ago, as a railroad having the prior and exclusive right granted to it to pass through a gorge, and she may dictate terms. If that be not true, would they accept an amendment by which this grant should run equally and be to the benefit of all, without the consent of San Francisco being required, who might avail themselves, under the law of the State of California, of this water or of the reservoir in which it is stored?

Mr. CLAPP. Mr. President—

The VICE PRESIDENT. Does the Senator from Idaho yield to the Senator from Minnesota?

Mr. BORAH. I yield.

Mr. CLAPP. I desire to ask a question for information, and not in a spirit of criticism, and I am asking as to a matter upon which I have heard diverse statements. For the purpose of the inquiry we will assume that San Francisco has made filings that entitle her to a given quantity of water out of this river. I think it is 161,000,000 gallons. I should like to know from the Senator's study of the situation, in view of the physical conditions there, whether there is any way in which San Francisco can avail herself of that filing and get that amount of water except by a dam—I am not saying now the dam proposed by the bill—except by a dam at the place where the bill contemplates the erection of the dam?

Mr. BORAH. My information is that there is not any other way by which she can avail herself of this particular water supply.

Mr. CLAPP. That is what I wanted the Senator's opinion on.

Mr. BORAH. That is my understanding.

Mr. CLAPP. I understand at the same time, from a suggestion of the Senator from Utah—if the Senator from Idaho will pardon me—that it is claimed that the settlers below there could build reservoirs and impound the excess of water in high water, so that they could use water covered by their subsequent filings without any dam being placed at this point.

Mr. BORAH. That is my understanding.

Mr. SMOOT. I will say, Mr. President, that Mr. Newell so testified, and others testified to the same effect.

Mr. CLAPP. I wanted to get the view of the Senator from Idaho. I was very much interested, I may add, in the suggestion the Senator was just making. If there was some way by which a dam could be built there and utilized, and there could be withdrawn from the bill anything like a recognition of the authority of either party to construct that dam—and San Francisco alone is mentioned in the bill in connection with the dam—and if there could be withdrawn anything like an assumption of authority to distribute the water to those who are entitled to it, it seems to me that might be a desirable solution of the difficulty; but I do not know how that could possibly be accomplished. I should, however, be very much interested in such an amendment.

Mr. WORKS. Mr. President—

The VICE PRESIDENT. Does the Senator from Idaho yield to the Senator from California?

Mr. BORAH. I yield.

Mr. WORKS. That can be accomplished under the laws of California. The water commissioners have complete control over that matter. They could allow the city of San Francisco to construct a dam at such height as would store the water which that city needs, and they could allow somebody else to add to the dam such an addition as would store the quantity of water they could use, and so on. Therefore, the laws of California would control the water and send it where it justly and properly belongs, if not interfered with by Congress.

Mr. CLAPP. I do not see that there would be any legal objection. The objection that occurred to me was the practical objection of inducing the building of a dam under those circumstances, one party contributing the funds for the construction of the dam to a certain extent and the other party securing the cooperation of the other builders and providing funds for the extension of the dam.

Mr. WORKS. That is specifically provided for by the law that I read to the Senate—the manner in which it shall be done, how the operating expenses shall be borne, and all that.

Mr. CLARK of Wyoming. Mr. President, as a practical matter, it is done now by the Government itself.

Mr. CLAPP. I know the Government could finance it very readily.

Mr. CLARK of Wyoming. It is not a question of financing, it is a question of proportionate contributions.

Mr. CLAPP. That is simple, but the question of constructing a dam there that would meet, first, the requirements of San Francisco and then impound an excess—a dam that would impound, say, 400,000,000 gallons, of which San Francisco could only take 161,000,000 gallons and the settlers the balance, or vice versa, would be a financial problem in that one phase of it.

Mr. CLARK of Wyoming. That is true; but there are few of these districts, and the evidence shows that at this particular point the parties interested are willing to and able to undertake a proposition of that sort.

Mr. CLAPP. I trust the Senator from Idaho will pardon me for the interruption, but it was on a practical phase of the question.

Mr. WALSH. Mr. President—

The VICE PRESIDENT. Does the Senator from Idaho yield to the Senator from Montana?

Mr. BORAH. I yield to the Senator.

Mr. WALSH. The Senator from California suggests a very interesting inquiry. He informs us that the laws of the State of California will allow one dam to be superimposed upon another, the original owner to have the water stored below and the subsequent builder the water stored above. Can the Senator inform us whether anybody has ever availed himself of that privilege?

Mr. WORKS. No; because the law has only within the last few months gone into force and has not been availed of at all. I think the water commission has only very lately been appointed. It is a new law in California, but it is a very specific one.

Mr. WALSH. Is the Senator able to tell us about the engineering difficulties attendant upon the construction of a series of dams superimposed one upon another?

Mr. WORKS. It depends altogether upon the action of the water commissioners. They would determine that question.

Mr. BORAH. I suppose that the water behind the dam would be something like money in a bank—no particular water would belong to anybody, as no particular money belongs to anybody in a bank, but they would be entitled to go there and get so much of it as they had remaining there. The engineering trouble, therefore, would be likely to be about the same that you have in getting money into a bank; there is not much trouble about getting it out.

Subdivision (1) provides:

(1) That the said grantee shall, upon request, sell or supply to said irrigation districts, and also to the municipalities within either or both said irrigation districts, for the use of any land owner or owners therein for pumping subsurface water for drainage or irrigation, or for the actual municipal public purposes of said municipalities (which purposes shall not include sale to private persons or corporations) any excess of electrical energy which may be generated, and which may be so beneficially used by said irrigation districts or municipalities, when any such excess of electric energy may not be required for pumping the water supply for said grantee and for the actual municipal public purposes of the said grantee (which purposes shall not include sale to private persons or corporations) at such price as will actually reimburse the said grantee for developing and maintaining and transmitting the surplus electrical energy thus sold—

That will be a more difficult proposition in finance than the other would be of engineering—

And no power plant—

Listen to this clause—

and no power plant shall be interposed on the line of the conduit except by the said grantee, or the lessee, as hereinafter provided, and for the purposes and within the limitations in the conditions set forth herein.

So that dedicates the entire power to the city with some degree of completeness, if it can be done at all.

The said grantee shall develop and use hydroelectric power for the use of its people and shall, at prices to be fixed under the laws of California or, in the absence of such laws, at prices approved by the Secretary of the Interior.

That I referred to, Mr. President, a few moments ago, and I will not refer to it again. There is one provision here, however, to which I shall call attention before I close upon this part of the discussion:

Provided, however, That the grantee shall at all times comply with and observe on its part all the conditions specified in this act, and in the event that the same are not reasonably complied with and carried out by the grantee, upon written request of the Secretary of the Interior, it is made the duty of the Attorney General in the name of the United States to commence all necessary suits or proceedings in the proper court having jurisdiction thereof, for the purpose of enforcing and carrying out the provisions of this act.

It will be observed that that is entirely different from the provision with reference to forfeiture, with reference to the failure to complete and an attempt to sell. In the provisions of

the grant which have reference to the question of sale or reference to the question of failure to complete, it is expressly provided that such failure shall constitute a forfeiture upon the part of the grantee, and that the Attorney General shall bring action for the purpose of bringing that forfeiture to a final conclusion.

But this is an entirely different proposition. It does not provide for any forfeiture, but simply provides that the grantee shall comply, and that upon its failure to do so the Attorney General shall bring such action as may be necessary for the enforcement and carrying out of the provisions of the act. No forfeiture being provided for, no forfeiture can follow from that fact, for the reason that forfeitures are not favored and must be specifically provided for before they can be enforced. The Attorney General could bring whatever action was necessary, perhaps an action of mandamus or something of that kind, to compel compliance with the law.

I ask, in connection with that, What would be the remedy of the irrigation districts if they should get into a conflict with San Francisco in regard to the rights under this grant? What remedy would they have? They could not bring any action such as is provided for in the bill. They would simply be relegated to common-law actions, or actions under the laws of the State of California, whatever they might be.

There is one provision here, however, which seems to be exclusive:

That this grant, so far as it relates to the said irrigation districts, shall be deemed and held to constitute a binding obligation upon said grantee in favor of the said irrigation districts, which said districts, or either of them, may judicially enforce in any court of competent jurisdiction.

Of course if these provisions were legal, if they were binding, they would go into court to enforce them the same as they would enforce any other contractual relation, or any other right based upon a contract in a grant; but they would have no power to enforce a forfeiture. They would not be permitted to proceed upon their own initiative in regard to such a thing, and they would simply be relegated to their common-law rights of action, whatever they were, or to actions as provided by the statutes of California. Very likely the only real remedy would be an action for damages, which, of course, would be a very difficult one to enforce against the city.

There has been a great deal of discussion in regard to the question of the supply of San Francisco at the present time of wholesome water. Something was said about it this morning by the Senator from Arizona [Mr. SMITH], and it has been discussed more or less during the entire debate. If we will take the reports of the engineers, both the Army engineers, the engineers for the Spring Valley Water Co., and the engineer of the city, and read those reports, we will come to the conclusion that at the present time there is no want or insufficiency of supply. It is very clearly stated by the reports that the water they now have, with the development which is now provided for and in process of completion, and which will go forward regardless of any act of this Congress, is not only sufficient for the present, but sufficient for years to come. I have not been able to find anything to controvert that proposition.

When I first took hold of this matter I was under the impression that San Francisco was at the mercy of the Spring Valley Water Co. In fact I read that in something written by one of the persons advocating the bill on the outside. But I find that the Spring Valley Water Co. and San Francisco have entered into an agreement; that their contract has been closed; and that it is going to finality, regardless of anything we do here. The reports disclose that not only will that source give them an ample amount of wholesome water for the present, but it will give them an ample amount of water for 15 or 20 years. It is not contemplated that the water from the Hetch Hetchy Valley will be used for 15 or 20 years, according to these reports. There is no contemplation that the city can possibly be in a position to use it inside of seven or eight years, as I understand; but certainly there is no contemplation that the city will use it within any reasonable period of time.

I read from a newspaper article published in a San Francisco paper only a short time ago, in which it is said:

Contractors for the Exposition Co. have completed one well, from which water is being pumped at the rate of 400 gallons a minute, which is over 500,000 gallons per day. Three more wells are to be sunk, and if they yield as abundantly the aggregate yield will be 2,000,000 gallons per day, which is one-twentieth of the average demand on the Spring Valley system. The water is claimed to be excellent. An official of the contractors says they will develop water "which will supply 1,000,000 people during the exposition year." If it will do that for the exposition year, it will do it for succeeding years, and we can tell both Spring Valley and Congress to go hang until our population exceeds a million.

Mr. Freeman says it will take five years to bore the tunnels for this supply, so that it will be years before any water is gotten into the city out of the proposition we are now discussing.

I do not think there is anything to be gained by insisting that the necessities are imminent and imperative. The Senator from Montana said awhile ago that this was simply a question of whether we would grant this right to San Francisco or wait 10 years and grant it to the irrigation districts. San Francisco will not be using this water inside of 10 years. But, aside from that, I will now answer the Senator's suggestion, as I told him I would awhile ago.

There is this question in the controversy, and it is the crux of the whole contention: Whether San Francisco should go to the Hetch Hetchy Valley and to this source of supply or whether San Francisco should go to the Sacramento Valley or other sources for her water. I do not contend that San Francisco should not have an opportunity to secure an additional supply of water at some time in the future, although I think it will be a long time before she needs it. She will be using the power a long time before she uses the water. I do not, however, object to San Francisco having that water if it can be supplied without doing an injury to other people; or, if there is no other source of supply, the injury, of course, must follow, anyway.

Mr. President, anyone who will take these reports and read them and study them will come to the conclusion that San Francisco can go to the Sacramento Valley, or to the McCloud River, or to the Eel River, or to the American River and get just as wholesome and just as efficient a quality of water as that which she is now seeking to get from the Hetch Hetchy source. There is a difference in cost—some say of \$10,000,000, some say of \$20,000,000, and I think some of the figures go above that, although I think the figures above that have been reduced until it is fair to argue it upon the basis of the two figures I have given—ten or twenty or twenty-five million dollars.

Mr. President, against that what are we to weigh? Not the question of the scenery, which they say is a sentimental question. It is one which is most earnestly advocated by a great many earnest people who are entitled to respect and consideration, but it is one which does not at all control me. Against that, however, let us place the disadvantages which will inure to the farmers of the San Joaquin Valley and to those who are to settle that country in the future.

The Sacramento Valley has more than an abundant supply. She is anxious to get rid of some of the water she has. She has floods, and the Government is taking steps to be rid of too much water in the Sacramento region. Shall we, for the purpose of avoiding the expenditure of a few million dollars at present, enter upon a proposition which means the ultimate injury to many millions more of property in the San Joaquin Valley? I think the reports show just as conclusively that this great region of country never can be reclaimed unless it is reclaimed from this source. When I say "reclaimed" I do not mean that perhaps in the technical sense, because in a technical way it has been already reclaimed; but they have not sufficient water with which to raise crops so that they can make it profitable. In one sense that entire valley, as I understand, has been covered by settlement; but it is a question of getting enough water to supply it so that the people can really raise crops upon the land they have; otherwise they must in time give it up, of course.

Therefore you not only have the irrigation districts which are there which may be provided for sufficiently under this bill—we will admit that for the sake of the argument—but you have these great tracts of land which are to be made valuable or valueless in the future, depending on whether you turn away this source of supply or keep it there—valuable if it stays, valueless if it is turned away.

As I understand—and if I am in error about this I should like to be corrected—the only difference between the propositions of the Sacramento and the San Joaquin is purely a question of dollars and cents. We have reached the point where it is only a question of dollars, or a few million dollars. Upon one side is the great San Joaquin Valley, one of the richest and most fertile valleys in the world, depending upon this water, with no other source of supply. Upon the other is the Sacramento Valley, able to supply the water, and ought to be rid of it. It is not the question of cost of to-day alone, but what will it amount to in the sweep of years, when you have assessed up against the \$20,000,000 which may have to be expended the loss which will arise by reason of the failure to reclaim or to dedicate those lands to homes and farms in the San Joaquin Valley?

I wish in this connection to read from an article in the *Irrigation Age*, written by a man by the name of John J. Bramhall. I do not know Mr. Bramhall, but he writes what seems to me a pretty fair article in regard to this matter. He says:

San Francisco needs more water. So does the San Joaquin Valley. The water sources in the Sierra Nevada are being rapidly appropriated, but there are still some unused sources on the watersheds of both the

Sacramento and the San Joaquin Valleys, and the question might be put in this form: To which valley should San Francisco go for her water? San Francisco claims by appropriation certain water rights in the upper Tuolumne River, in the Hetch Hetchy Valley, in the northern part of the Yosemite Valley, and also in Cherry Creek and Lake Eleanor, north of Hetch Hetchy, and has acquired title to certain lands in those locations, and now asks Congress for a dam site and right of way which shall be free from revocation by the Secretary of the Interior, as in the Garfield permit. The question at issue is whether San Francisco should be granted these privileges or shall be compelled to go elsewhere for her supply.

There are two factors in the controversy, as opposed to the contentions of San Francisco: First, the interests of the irrigation farmers and those who might become such by the extension of the irrigated area, and, second, the advocates of the preservation of the national parks from all encroachment by corporate or municipal interests—commonly called the "nature lovers." These latter have been given rough usage by the advocates of the San Francisco scheme, but have been very useful to them, nevertheless, in clouding the main issue, which is the defense of the irrigation districts in the San Joaquin Valley. As the question will probably be decided on consideration of "highest use," I will disregard the plea of sentiment, but without prejudice.

Nor is it necessary to go into the history of San Francisco's efforts to get the grant of the Hetch-Hetchy reservoir or to discuss the question of whether the location is properly within the boundaries of the Yosemite National Park, or debate the powers of Congress in the matter. We may take these for granted until disproven.

In his communication to the mayor of San Francisco on the application for Lake Eleanor and Hetch Hetchy reservoir sites, under act of February 15, 1901, Secretary Fisher said:

"I have reached the conclusion that a permit for this purpose should not be issued by the Secretary of the Interior under the existing law. This conclusion is not based at all upon questions connected with the permit, but is based upon the fact that the only statutory authority under which such permit could be issued is the act of February 15, 1901. The first and main conclusion reached by the advisory board of Army engineers is as follows:

"The board is of the opinion that there are several sources of water supply that could be obtained and used by the city of San Francisco and adjacent communities to supplement the near-by supplies as the necessity develops. From any one of these sources the water is sufficient in quantity and is, or can be made, suitable in quality, while the engineering difficulties are not insurmountable. The determining factor is principally one of cost. In some cases, however, such as the Sacramento, sentiment must be taken into consideration."

That, it occurs to me, is a pretty fair statement. The writer does not seem to be prejudiced, and this is a quotation which he makes literally from the Army engineers' report.

He then quotes further, which I will not now take the time to read, the difference in cost, which is about, as I said a moment ago, \$20,000,000, with some estimates as high as \$30,000,000, greater than the Hetch Hetchy project; but he says that by discounting to 1914 it becomes only \$13,000,000.

Secretary Fisher says:

I do not believe that the Secretary of the Interior should grant under the act of February 15, 1901, a permit in this case based upon the principal determining factor of the difference in cost between available alternative sources of water supply, whether that difference be \$13,000,000 or \$20,000,000, or even more than \$20,000,000. If the Secretary were to do this, he would in a certain important sense be placing a monetary value upon the preservation of the Hetch Hetchy Valley in its present natural conditions.

And, he might have said, he would be placing a monetary value upon the San Joaquin Valley and its possible agricultural future under its present development and condition. So the Secretary refused to grant permission.

I will discuss this matter later during the evening.

ENROLLED JOINT RESOLUTION SIGNED.

A message from the House of Representatives, by D. K. Hempstead, its enrolling clerk, announced that the Speaker of the House had signed the enrolled joint resolution (H. J. Res. 155) extending time for completion of classification and appraisal of surface of segregated coal and asphalt lands of the Choctaw and Chickasaw Nations and of the improvements thereon, and making appropriation therefor, and it was thereupon signed by the Vice President.

BANKING AND CURRENCY.

Mr. BRISTOW. Mr. President—

The VICE PRESIDENT. Does the Senator from Idaho yield to the Senator from Kansas?

Mr. BORAH. I do.

Mr. BRISTOW. I desire to announce that on Tuesday next, immediately after the routine morning business, I shall address the Senate on the banking and currency bill, unless it will interfere with other business of the Senate.

Mr. CLARK of Wyoming. Mr. President, will the Senator yield to me?

Mr. BORAH. I yield to the Senator from Wyoming.

Mr. CLARK of Wyoming. I ask the Senator to yield to me in order that I may submit a somewhat lengthy amendment to this bill so that it may be printed. I ask that it lie upon the table.

The PRESIDING OFFICER (Mr. ROBINSON in the chair). The amendment will lie on the table and be printed.

RECESS.

The VICE PRESIDENT. The hour of 6 o'clock having arrived, in accordance with the order previously made, the Senate of the United States will take a recess until the hour of 8 o'clock p. m.

Thereupon (at 6 o'clock p. m.) the Senate took a recess until 8 o'clock p. m.

EVENING SESSION.

The Senate reassembled at 8 o'clock p. m.

AGRICULTURAL COOPERATION IN EUROPE (S. DOC. NO. 214).

Mr. FLETCHER. Mr. President, I ask unanimous consent that an order be made that the manuscript of the report of the American Commission on Agricultural Cooperation in Europe be printed as a Senate document. There has been an order already made for the printing of this material, but the printing clerk desires this additional order made, it having reference more particularly to the arrangement of the document.

The VICE PRESIDENT. Is there objection to the request of the Senator from Florida? The Chair hears none.

The order as agreed to was reduced to writing, as follows:

Ordered, That the manuscript of the report of the American Commission on Agricultural Cooperation in Europe be printed as a Senate document.

CALLING OF THE ROLL.

Mr. SMOOT. Mr. President, I suggest the absence of a quorum.

The VICE PRESIDENT. The Secretary will call the roll.

The Secretary called the roll, and the following Senators answered to their names:

Ashurst	Gronna	Norris	Smith, Md.
Bacon	Hollis	O'Gorman	Smoot
Bankhead	Hughes	Overman	Stone
Borah	James	Owen	Swanson
Brady	Johnson	Page	Thomas
Bryan	Jones	Pomerene	Thompson
Burton	Kern	Reed	Thornton
Chamberlain	Lewis	Robinson	Vardaman
Clarke, Ark.	McCumber	Saulsbury	Walsh
Colt	McLean	Shafroth	Warren
Fletcher	Martin, Va.	Sheppard	Williams
Gallinger	Martine, N. J.	Shively	
Goff	Myers	Simmons	
Gore	Nelson	Smith, Ga.	

The VICE PRESIDENT. Fifty-three Senators have answered to the roll call. There is a quorum present.

SAN FRANCISCO WATER SUPPLY.

The Senate, as in Committee of the Whole, resumed the consideration of the bill (H. R. 7207) granting to the city and county of San Francisco certain rights of way in, over, and through certain public lands, the Yosemite National Park, and Stanislaus National Forest, and certain lands in the Yosemite National Park, the Stanislaus National Forest, and the public lands in the State of California, and for other purposes.

The VICE PRESIDENT. The Senator from Idaho [Mr. BORAH] is entitled to the floor.

Mr. BORAH. Mr. President, at the recess hour I was calling attention to an article from the Irrigation Age written by Mr. John J. Bramhall, which, as I said, seemed to me to be a very earnest effort to be fair and impartial in the presentation of the situation, and doubtless it was written by one who has studied the situation on the ground. Quoting from the article, it says:

It would perhaps be going beyond the province of an impartial statement, such as I am trying to make, to allege that the hearing on the Hetch Hetchy bill (H. R. 7207) before the House Committee on the Public Lands was a one-sided affair, notwithstanding the efforts of the chairman, Mr. SCOTT FERRIS, to bring out all the facts. Nevertheless, a perusal of the hearing reveals the fact that the irrigation interests made no defense and did not even question statements that were manifestly to their disadvantage. This was brought about by certain concessions, or agreements, on the part of the San Francisco managers, in the shape of amendments to the bill, calculated to protect the rights of the districts and accepted by their representatives as a compromise. The appearance of the Secretary of the Interior, Mr. Lane, as an advocate for the bill was not without its influence.

The irrigation farmers of the region affected have been placed in a false position by the pledges of the advocates of the bill and are now apparently changing front in renewing their opposition. The San Joaquin Valley people have always opposed the diversion of their water, and they now more than ever dispute the efforts of San Francisco to establish herself in the Hetch Hetchy, since it is her avowed intention to obtain an unconditional grant of the reservoir site and right of way and to deny the authority of the Federal Government to impose conditions upon the use of the waters of the national park. Remonstrances against the bill are now being circulated among the water users and are being signed almost unanimously.

It begins to be apparent, too, that the electric power which would be generated from the Hetch Hetchy dam is the real "nigger in the wood-pile," and it is even asserted that San Francisco is not likely to utilize the water for any other purpose. This phase of the subject was briefly touched upon in the inquiry (p. 123), and a warning was given against a repetition of the Salt River scandal.

A warning, Mr. President, which should not go without some heed.

To understand the peculiar situation of these districts and the reason for the strenuous opposition to the claims of San Francisco on the part of the irrigation farmers, we should examine the topography of the San Joaquin Valley; and to understand also the position of San Francisco as regards water supply, we should look into the topography and climatic conditions of the Sacramento Valley. The Great Valley of California, about 500 miles in length and 75 or 100 miles in breadth, is inclosed by the lofty Sierra Nevada on the east and the Coast Range on the west, and Shasta and Tehachapi at either end. It is practically one valley, with the Sacramento flowing down from the north and the San Joaquin joining it from the south and emptying their waters into San Francisco Bay. In temperature the two ends of the valley are very similar, but in precipitation there is a wide difference. For the northern valley we find an average of 20 inches at Sacramento, 23 inches at Chico, 36 inches at Redding, and still higher readings in the mountains. In the southern valley we find the precipitation decreasing from 16 inches at Stockton to 5 inches at Bakersfield, with a higher range, of course, in the mountains. Quoting the California Conservation Commission, the mean annual run-off of the Sacramento River at Collinsville (including tributaries) is 26,000,000 acre-feet, and of the San Joaquin River and tributaries 8,500,000 acre-feet. It was shown clearly in the Hetch Hetchy hearings (pp. 75-80) that the San Joaquin Valley has a scarcity of water and the Sacramento Valley a surplus, in a ratio of 6 to 1 per acre.

One of the valleys, Mr. President, in need of all the water that can be possibly supplied for the purpose of reclaiming these lands or holding them for cultivation, and the other having a very large surplus of water.

In fact, the general problem in the Sacramento Valley is one of flood prevention. (See Rivers and Floods of the Sacramento and San Joaquin Watersheds, and also report of California Conservation Commission.) The rivers and floods report shows that within a radius of 20 to 40 miles from Kennett, in the lower Pitt and upper Sacramento watersheds (including the proposed McCloud River water source for San Francisco) the annual precipitation sometimes exceeds 100 inches, and in 1909 was 115.9 inches. The same report gives details of flood losses since 1909 of \$10,325,000, mainly in the Sacramento Basin, and all attributable to the Sacramento, as it is the great flood tide of that river that backs up the San Joaquin. The United States Government is now prosecuting a great flood-protection work on the lower Sacramento River, which will cost \$30,000,000, divided between the Federal, State, and county Governments, and it is estimated that private capital is engaged in reclamation work to an equal or greater amount, in which lands to the extent of over half a million acres are to be reclaimed from overflow. From this it would appear that the Sacramento Valley would be only too glad to part with all the water that San Francisco could take.

A few brief notes regarding the increase of value of farms and of production in Stanislaus County attributable in great measure to irrigation. (Report of State board of agriculture.) Value of all farm property, 1900, \$17,032,000; 1910, \$43,788,000; increase, 157 per cent. Increase in value per acre greater than any other interior county. There was very little alfalfa in 1900; the area now is estimated at 130,000 acres. The butter product in 1900 was about 800,000 pounds; in 1912 Stanislaus was the leading butter county in the State, with 6,894,225 pounds, practically all from irrigated land. The total irrigated area in 1899 was 17,500 acres; in 1909, 84,000 acres, with 341,000 acres in existing projects. There are now 120,000 acres irrigated in the Modesto-Turlock districts, and about 30,000 acres outside. The works have not been extended to cover all the area included in the districts, but extensions have been already planned. Meanwhile, the lands to the eastward, now in pasture or stubble, and suitable either for citrus or deciduous fruit or for alfalfa, are being looked over with a view toward new irrigation districts, which, however, the passage of the Hetch Hetchy bill would exclude for all time. So that even if the existing districts are fully protected by the bill (regarding which the lawyers differ), the outside lands must remain arid. True, San Francisco did magnanimously consent to the enlargements of the districts from 257,000 acres to 300,000 acres, to include the proposed Waterford district, but would allow for no extra water for their development.

Much more might be said, for the subject is a wide one and important on account of the precedents it may establish, but enough has been set forth to demonstrate that the farmers and landowners of the San Joaquin Valley, and particularly of Stanislaus County, have abundant reason for their opposition to the diversion of any waters, natural or flood, from the San Joaquin Valley.

As a comment upon that, Mr. President, aside from the general comment that it seems to be an effort to fairly and impartially present the matter by one whom I do not know to be interested, but can not say he is not—in addition to that comment, anything to my mind which in this country is calculated to withhold from irrigation and from farming or utilization for agricultural purposes any considerable area of land is a detriment and a calamity to this country which you can not measure in dollars and cents.

I remarked this afternoon that for the last five years the figures disclose that we are giving over to our sister Government upon the north 100,000 of our citizens. I was about to say our best citizens, because I consider that the man who goes out into the desert and waste places to make a farm where there never had been a farm before, and thereby add not only to the home-builders' dominion, but add to the general comforts and to the general supplies of the entire country, is altogether to be classed as one of our best class of citizens. Everyone who is familiar with the western country knows that for the last several years there has been a gradual pushing more and more to that part of the public lands which are very costly to reclaim.

There is no such thing any longer, Mr. President, as a man going out on a piece of prairie land rich and fertile, turning it

over, and raising a crop without any further expense than that of merely reducing it to a cultivable condition. He must now go into those almost inaccessible places, where it is difficult to get water with which to supply the land; he must be at an extra expense in order to get water upon the land; and then he must wait until the water goes upon the land, until the land has been tamed, as it were, to the production of crops. So, Mr. President, we are now engaged in an effort to secure enough land in different parts of the West, where it has not actually been taken, to hold our own people, and it has been demonstrated in the last five years that so far we have not the land or, if we have, that we have not the means available by which the people can get it. So we have lost 100,000 of our citizens year by year of our best blood and best brain, who have gone over to help build up the great Dominion of Canada.

Anything, Mr. President, that is calculated to reduce to an eternal desert or a portion of it for all time one of the most fertile and beautiful valleys in the country is not to be measured by an estimate of \$20,000,000, to say nothing of the other conditions which might be of importance.

Therefore, if it is true, Mr. President, that the Sacramento Valley has a surplus of water and that there is an efficient and sufficient supply for San Francisco, or if it be true, as I think I shall show later, that the American River, the McCloud River, and the Eel River will afford a sufficient supply of wholesome water, the mere question of cost or additional cost ought not to insure the passage of this bill. So far as I am concerned, there is no difference to my mind between granting to a city a piece of property belonging to the Government that is worth from fifty to one hundred million dollars than it is to take \$30,000,000 out of the Treasury and give it to the city. I stated a moment ago as my candid judgment that it would be infinitely less costly to the United States Government to make an appropriation outright to transfer the water across from the Sacramento Valley than it would be to make this grant if the grant has the effect upon the San Joaquin Valley that seems to be conceded in these reports.

It is very difficult, Mr. President, interrupted as I was this afternoon, to present this matter in a logical way; so I refer back for a few moments to one feature of it, which I passed over, to make an additional statement in regard to it. What I shall now read is from the report of Mr. John R. Freeman, the expert for the city of San Francisco, which says:

THE EXISTING SUPPLY TO SAN FRANCISCO.

John R. Freeman, expert for the city, says of it: "The present quality of the water furnished by the Spring Valley Water Co. is, I believe, thoroughly wholesome and safe." (Freeman's Report, p. 61.) It is a mountain water from the coast range and, according to the Army engineers, can be developed to 131,000,000 gallons daily—more than three times the present supply (Report, p. 16) and sufficient for a population of 1,300,000, according to Mr. Freeman. Even taking into account all the cities around the Bay of San Francisco, the Army engineers find the "economical development" of the coast range supply is 233,000,000 gallons daily (Report, p. 17), or enough for a population of two and a quarter millions of people (present population about 750,000). One hundred gallons a day per capita is the present use. (Freeman, p. 79.)

THE HETCH HETCHY AT LEAST FIVE YEARS AWAY.

Should this bill pass, water can not be brought from the Hetch Hetchy under 5 years (Freeman, p. 74), or 10 years according to former City Engineer Mancos. Long before this the "Calaveras" supply would be ready, and with this Mr. Freeman advises "deferring" the building of the Hetch Hetchy works "four or five years," and thus "put off for a few years the paying of interest on the large sum of money involved in building the Hetch Hetchy Dam." (Report, p. 69.)

In 1910 George Otis Smith, Director of the Geological Survey, reported to the Secretary of the Interior, after a careful examination by engineers:

"The Lake Eleanor project is amply sufficient to meet the present and prospective needs of the city, and it is not necessary that the Hetch Hetchy Valley should be available to San Francisco for the purpose of a municipal water supply."

That statement was made by a responsible officer of the Government in 1910.

This board reported four other such sources: (1) McCloud River; (2) Sacramento River; (3) Lake Eleanor, etc.; (4) American River, etc.—all ample. Upon this showing Secretary Fisher, who visited the valley, refused a permit to the city, which therefore now makes this appeal to Congress.

TWO HUNDRED AND FIFTY SQUARE MILES OF ARABLE AND IRRIGABLE LAND TO BE LEFT FOREVER ARID.

The demands of the San Joaquin Valley for complete irrigation are in excess of the water available. * * * There can be no question but that a large portion, if not all, of the flow of the Tuolumne (from the Hetch Hetchy) could be used for irrigation if stored. * * * It seems quite certain that to irrigate the southern part of the San Joaquin Valley would be less expensive from the Tuolumne than from the streams farther north. (The Army Engineers Report, p. 35.)

When I returned from dinner, after the recess, I found on my desk a letter under date of November 30, written by J. E. Gardner, an attorney at Watsonville, Cal. I am inclined to pay a good deal of regard to this letter, for the reason that the

writer refers to himself as just simply a country lawyer, and I have a very profound respect for the country lawyer. I do not know Mr. Gardner otherwise than as he introduces himself; but he says:

I am not directly or indirectly interested in any water supply for San Francisco, existing or prospective, and have no clients, friends, or relatives who are, nor am I directly or indirectly connected or associated with the so-called "system" which is supposedly in league with his satanic majesty to deprive San Francisco of this boon; but, as a citizen of the United States and of the State of California, for a number of reasons I am vitally interested in the preservation and perpetuation of Yosemite National Park. From the experience of several visits to this section, I have certain personal knowledge of the subject, which I feel to be sufficient excuse to inflict upon you some views of an obscure country lawyer.

I will not read the entire letter, Mr. President, but will ask to insert in the RECORD that portion which I do not read. I will, however, read a paragraph or two from it. The writer states:

4. There are a lot of ridiculously false stories in circulation as to the water famine in San Francisco. I believe Mayor Rolph is now on his way to Washington with some 20,000 signatures to a statement that the condition of his city is desperate, the health of its people threatened, etc.

In the first place, this condition absolutely does not exist, has not existed, and there is not one bit of danger that it will come to pass.

I think that statement could be well based upon the report made by the parties in interest from San Francisco.

There is and has been an abundance of admittedly good water for all the people and for all purposes, and to supply the possible demands of the city for many years to come. But San Francisco for a long time has been fighting with the Spring Valley Water Co., and because of this fight pipes have not been laid to certain districts.

As I understand, the Spring Valley Co. and San Francisco have now come to an agreement about the sale, and a friendly suit for condemnation is proceeding.

Inasmuch as there are no connections with the established water system, these districts have suffered. Hetch Hetchy would not relieve this condition. The water from that source could not be landed in San Francisco within five years, and then, as now, would have to be piped. Long before that time expires, through condemnation proceedings, or some other available means, these neglected districts will be supplied with water.

To permit this grant would be a serious blunder, both from a sentimental and an economical viewpoint.

Then he discusses what he considers the sentimental view, which I do not at this time discuss. He proceeds:

That there are other adequate sources of supply for San Francisco is so well established as a fact that it does not need comment. To be sure, they can not be had for nothing, as the city would have this. But that is no reason why the people of the Nation should make San Francisco a present of that which should be worth to her, at the very least, \$100,000,000.

The entire letter is as follows:

Hon. W. E. BORAH,
Washington, D. C.

WATSONVILLE, CAL., November 30, 1913.

SIR: I presume that you are overwhelmed with correspondence relative to the Raker bill, proposing to grant to the city and county of San Francisco the right to convert Hetch Hetchy Valley into a reservoir and to use a part of the water flowing in the Tuolumne River. At any rate, I note that San Francisco publications are printing circular letters urging their readers to address you on the subject favorably to that city's interests.

I do not know what is being done by those who are opposed to the grant, but I do know that there is a vast amount of lying going on concerning this subject, and that the campaign being made on behalf of San Francisco is such that it is almost sure to give Members of Congress many false impressions as to the physical facts, and to lead them to believe that thousands of people are urging the grant with a full comprehension of its meaning, when in truth they are doing so as a mere matter of form or courtesy and with no real understanding of the subject.

I am not directly or indirectly interested in any water supply for San Francisco, existing or prospective, and have no clients, friends, or relatives who are; nor am I directly or indirectly connected or associated with the so-called "system" which is supposedly in league with his satanic majesty to deprive San Francisco of this boon; but as a citizen of the United States and of the State of California, for a number of reasons I am vitally interested in the preservation and perpetuation of Yosemite National Park. From the experience of several visits to this section I have certain personal knowledge of the subject, which I feel to be sufficient excuse to inflict upon you some views of an obscure country lawyer.

1. I have seen the statement repeatedly printed that San Francisco proposes to take only 2½ square miles of territory, a goodly portion of which is now held by it in private ownership. This point is emphasized in literature sent out to chambers of commerce, women's clubs, and other similar organizations.

Like all really effective lies, this one is adulterated with a certain percentage of truth. The floor of Hetch Hetchy Valley that will actually be flooded probably measures something like the area named. Anyone, however, who is familiar with the watershed knows that if Hetch Hetchy Valley is to be used for a storage reservoir for drinking water, the Grand Canyon of the Tuolumne, 20 miles in length, the Tuolumne Meadows, 12 or 13 miles in length, and, in fact, the whole district from which the water will come, must virtually be handed over to the city of San Francisco.

This watershed includes more than one-half the total area of Yosemite National Park, in my humble judgment the grandest, the best, and in every way the most valuable portion.

The laws of this State relative to the sanitation of watersheds are most stringent, and at every session of the legislature additional re-

strictions are placed upon the use of such areas. It is utter folly for an instant to suppose that with Hetch Hetchy devoted to this use the watershed could, to any appreciable extent, be occupied by tourists, campers, or pleasure seekers. The law would not permit it, and public sentiment would absolutely forbid it.

The company now supplying San Francisco owns a large portion of its watersheds. These are carefully fenced, diligently patrolled, and under strict and constant inspection. The city officials, who are now engaged in spreading this falsehood, insist upon a strict inspection of the Spring Valley Water Co.'s sources of supply. They would set up a howl that could be heard in Jerusalem if the company's watersheds were used as public camping places, or if summer resorts should be established along the streams from which the water comes.

The watershed of the Tuolumne, above Hetch Hetchy, is one much more readily subject to pollution than those of the Spring Valley Water Co. The Tuolumne gathers its waters from a district near by, a precipitous region, a region of granite peaks and slopes, a region that yearly is covered with a heavy fall of snow, and which with the melting snow is washed clean every spring. To pollute this stream it is not necessary to build a privy on its bank nor to run hogs in its waters. A typhoid germ, deposited a mile away, might easily be carried into the river with the melting of the snow. The "leavings" at any old camp site may be carried into the river with the first freshet. The watershed of the Spring Valley Co. is of an entirely different nature. A region of almost perpetual summer—no snow, no granite slopes of great expanse, and a region where water, flowing into its streams is pretty well filtered before it arrives.

Now, if San Francisco must—as she rightfully and lawfully does—insist upon a rigid inspection and careful sanitation of Spring Valley's sources of supply; if campers, and trappers, and summer resorts are to be excluded from these watersheds; why should she be expected to welcome the people of the earth to come and spend their summers in the Tuolumne Meadows, the Tuolumne Canyon, and other territory tributary to the upper Tuolumne River? If anyone shall permit himself to believe that she will there is in store for him a glorious disillusionment. Once this grant is obtained Congress will be urged—yes, absolutely compelled—to isolate the whole watershed above Hetch Hetchy Valley.

It is true, I suppose, that the city has acquired ownership of a portion of the floor of the valley. It is also true that there are private holdings in Yosemite Valley and in other portions of the park. Does it follow that Yosemite Valley should be turned over to private enterprises? If San Francisco saw fit to invest money in this manner, without first having obtained from Congress the necessary grant, that fact is no reason to demand it now. The investment was made voluntarily. If it is not profitable, the city has only its own bad judgment to blame. Moreover, I have no doubt that these holdings, without the grant, are worth more than was paid for them and will constantly increase in value. Nor is there less room to doubt that the purpose of the city in making the purchase was to use this ownership of the floor of the valley as a club, as it is now industriously engaged in doing.

2. It is said that the Hetch Hetchy Valley is a region well-nigh inaccessible, visited by almost no one, and infested with mosquitoes to an extent that life is there almost unendurable.

A good wagon road approaches the valley within 10 miles. Thence, by a comparatively easy trail, the valley is reached in three hours or less. Two more good trails lead in. One may reach this valley just as easily, just as quickly, and, except for the short horseback ride, with just as much comfort as he could have entered the Yosemite Valley 8 or 10 years ago. I have visited both valleys, both before and since the construction of the Yosemite Valley Railroad, and I know the above statement to be a fact.

I have seen as many as 200 people camped in the Hetch Hetchy at one time. I think I may truthfully say that hundreds of people visit the valley every season, and I know that this has been true on many occasions. This with no hotel accommodations whatever and no stage line connecting. I have never met anyone who has camped in the Hetch Hetchy who is not in love with it and the surrounding region. My wife, a frail woman, was with me on my last trip, and I could not please her better than to take her there again, though we rode horseback from Yosemite by way of Tuolumne meadows, a trip ten times as hard as that by the wagon road.

Mosquitoes infest every part of the mountains at the time when the snow is melting and while water still stands in low places. My visits to Hetch Hetchy have been made in July, and I have found not nearly so many of these insects as were present during the same month in Yosemite. Yet a good many thousands of people yearly manage to worry through the month in the latter place.

3. It is said that to transform the valley into a lake will add to its beauty; that a road will be built into the canyon and around this lake; and that the people will thus be enabled to enjoy that which is now denied to them.

To one who knows, such an argument is so absolutely ridiculous as to be intensely amusing. To say that this most beautiful and picturesque of all the mountain valleys will be improved in appearance by converting it into a lake is a statement so obviously devoid of truth that it should need no refutation. There are hundreds of lakes more beautiful than this could possibly be. There is no valley—not even the Yosemite—that in natural beauty approaches it. Yosemite exceeds it in grandeur, but Hetch Hetchy stands alone in the picturesque.

As for roads about this lake, it is easy to understand that a road might be built into the valley, but to discover the route of a boulevard around it (when converted) would be a difficult task. It would have to run along the perpendicular canyon wall for a distance of something like 16 miles; nearly every foot of it would have to be blasted from solid granite; and it would be a clever engineer, indeed, who would be able to locate on its course one camping place that would accommodate 20 people; while horse feed would be wholly out of the question. And so they would make this place attractive and accessible to the people.

What should be done is to construct a road into this valley, provide a hotel or camp, condemn all private holdings, and give the people of the Nation a chance to enjoy one more of the wonders at home that so far exceed those abroad.

4. There are a lot of ridiculously false stories in circulation as to the water famine in San Francisco. I believe Mayor Rolph is now on his way to Washington with some 20,000 signatures to a statement that the condition of his city is desperate, the health of its people threatened, etc.

In the first place, this condition absolutely does not exist, has not existed, and there is not one bit of danger that it will come to pass. There is and has been an abundance of admittedly good water for all the people and for all purposes and to supply the possible demands of the city for many years to come. But San Francisco for a long time has been fighting with the Spring Valley Water Co., and because

of this fight pipes have not been laid to certain districts. Inasmuch as there are no connections with the established water systems, these districts have suffered. Hetch Hetchy would not relieve this condition. The water from that source could not be landed in San Francisco within five years, and then, as now, would have to be piped. Long before that time expires, through condemnation proceedings or by some other available means, these neglected districts will be supplied with water.

These are a fair sample of the false and misleading statements that have been given currency by the advocates of the grant. They are put forth in attractive form, presented by clever writers or speakers, and, standing uncontradicted, have deceived many thousands of people who have no personal knowledge of the situation. Only a week ago the president of our local women's club returned from a district convention at which a San Francisco representative had been present with an armful of such ammunition. She was full of enthusiasm for the grant and urged upon the club the advisability of adopting and forwarding to Congress a resolution constructed along the same lines as the circular letters I have referred to. The members, with one exception, being ignorant of the truth, were about to put the resolution through with a whoop. Fortunately one member was present who knew. A few words from her changed the whole situation, and the resolution was turned down without a dissenting vote. Undoubtedly such resolutions have been adopted by hundreds of similar organizations, acting blindly and after having heard only one side of the question. Such expressions of opinion are worthless as an indication of public sentiment and should have no consideration in Congress. With the same effort and the same expenditure of money just as many people could be induced to indorse a proposition to dam up the Yosemite Valley.

To permit this grant would be a serious blunder, both from a sentimental and an economical viewpoint.

To one who delights in the beauties and wonders of nature the idea is repulsive. To such it would be a crime to abandon to San Francisco the grander half of Yosemite National Park. These constitute a rather large part of the inhabitants of the United States. Some 12,000 or more visit Yosemite Valley in one summer season. If the Government, at a comparatively slight expense, would build a road from Yosemite to Tuolumne Meadows and from Hog Ranch into Hetch Hetchy the patronage of the park in a short time would be more than doubled. With 30 miles of new road and a few thousand dollars spent in repairing the old Tioga Road (running from Crocker to the Meadows), the whole Tuolumne watershed would be opened up, and neither in America nor Europe, nor elsewhere on the globe, would there be a "grand tour" that in variety, grandeur, and picturesque beauty would equal this trip around the Yosemite Park.

This park is the playground of a Nation. It belongs to the people of the East as well as to those in the West. In it millions of people now living and countless millions yet to come have or will have a personal interest. Thus far it has been preserved to them. The people of San Francisco constitute considerably less than one-fourth of the population of one sparsely populated State. They have no moral or legal right and no legitimate excuse to demand of Congress that this park or any part of it be handed over to them. Congress has no right to take from the people of the whole Nation a thing which is held in trust for them and divert it to the selfish and exclusive use of one single, small community. To do so would be a monstrous injustice; a most flagrant violation of trust.

Yosemite Valley is fast approaching the time when during the summer months it will be overrun with people. Those who care for solitude, who wish to be removed for a time from the maddening throng, already find themselves shut out. But a few years and this valley will not be able to accommodate in reasonable comfort one-half the people who will wish to go there. An outlet for these people should be provided. It is just at hand. The meadows and Hetch Hetchy have only to be opened up to travel by stage or automobile and provided with reasonable accommodations in the way of camps or hotels. These regions are part and parcel of the park. They are the natural outlet for the surplus patronage of Yosemite Valley. Instead of restricting the area that may be used by the people for their health and pleasure, the Government should seek to develop it and to render distant portions more easily accessible. It is not the experience of municipalities, States, or nations that areas too great have been reserved as parks. Quite the contrary.

Economically the blunder would be even greater. In Yosemite Park, as it stands, the United States and the State of California have one of the biggest and best business investments in the world. I have been through this park with persons who have visited almost every part of the earth, who are at home in the Alps and the Andes and who are not strangers in the land of the Himalayas. With one accord they are agreed that with reasonable development, such as will naturally come within a few years, this region will exceed in attractiveness any it has been their privilege to see. Its variety of scene is almost unlimited; its grandeur rarely, if ever, equaled; its extent so great; the climate so delightfully adapted to all the purposes of the sightseer, tourist, invalid, artist, nature lover, and pleasure seeker.

With this park intact there is no reason why hundreds of millions of dollars now spent in Europe should not be kept at home. Yosemite Park should be the mecca for thousands of pleasure-seeking, money-spending easterners who yearly set sail for foreign ports. It could easily be made many times more popular than the Yellowstone. Through this medium California should make herself rich. The cost of a water supply for San Francisco—if she be compelled to purchase one, as other cities do—would be a mere pittance beside the sums of money that would in 25 years be spent in California by those who would come here for the grand tour around the Yosemite National Park. This is no dream. It is a fact, and one that the advocates of the grant are very careful to obscure.

Cut off the Tuolumne watershed by this grant and the greater possibilities of the park as a money getter are gone. Diminished by more than one-half in area, by two-thirds in point of camping grounds and sites for resorts, limited virtually to the Yosemite Valley itself, and in but a few years it will not accommodate the people of this one State. The people of the city and county of San Francisco have no right to ask that this great asset of the Nation be given over to them as their exclusive heritage and for their enormous financial profit.

That there are other adequate sources of supply for San Francisco is so well established as a fact that it does not need comment. To be sure, they can not be had for nothing, as the city would have this, but that is no reason why the people of the Nation should make San Francisco a present of that which should be worth to her at the very least \$100,000,000.

So, much is made of the fact that water rights have been granted to Los Angeles and other cities. The cases are not parallel, and anyone who will think a very little and who has any desire whatever to be fair, will concede it to be true. Water rights have been granted

to certain municipalities, but in no case has there been involved the proposition of depriving the people of the whole country of the use and enjoyment of a large portion of one of their choicest treasures. There has never before been an attempt to destroy a national park for the selfish purposes of one municipality. If this is to be done for San Francisco now, who is to say that it may not be done for another city or for a private concern in the years to come. A city or a concern that may take a fancy to Yosemite Valley, for example. It is not a proposition of favoring Los Angeles above San Francisco; it is a case of San Francisco demanding more than Los Angeles or any other city ever had the effrontery to suggest.

I am not alone in entertaining these views. There are thousands of people within 100 miles of San Francisco who are more radical than am I. Some of them you may hear from. Most of them are inactive, as I to this time have been. Of one thing be sure, you will hear from all who favor the grant.

Respectfully,

J. E. GARDNER.

That is the beauty always of coming to the Government. If you go elsewhere, of course you must pay something for what you get. The only unqualifiedly generous giver in the country is Uncle Sam. I would pause here to say—and I say this without any reflection upon Senators, but simply as an illustration of how we look upon the disposal of public funds, public property, and so forth, which belongs to all of us in a way—that if it were a grant being made by an individual client under the advice of any lawyer in the Senate, he would not for a moment contemplate advising his client to ever attach his signature to this grant. If we were dealing with anything except public property, except public funds, as it were, if we were acting in a professional relationship to a client and knew the value of this property and its worth to the entire country, we would not think of passing it over under any such conditions or terms as we are seeking to pass it over in this instance.

Mr. POMERENE. Mr. President—

The PRESIDING OFFICER (Mr. MARTINE of New Jersey in the chair). Does the Senator from Idaho yield to the Senator from Ohio?

Mr. BORAH. I yield.

Mr. POMERENE. I have not had the pleasure of hearing all of the Senator's argument, but I understand, Mr. President, the reason for his opposition. I have understood that the people of San Francisco were almost a unit in favor of the proposed plan. Now, if there is so much objection to this plan, and the Sacramento River plan is a feasible one, can the Senator explain why it is that the San Francisco people have been so unanimously, or almost unanimously, in favor of the plan contained in this bill?

Mr. BORAH. Well, Mr. President, I do not think I could explain that to the satisfaction of the Senator from Ohio, but I have my own very settled convictions about it. That, however, would lead me into a field of discussion which I have studiously refrained from approaching.

Mr. THOMAS. Mr. President—

The PRESIDING OFFICER. Does the Senator from Idaho yield to the Senator from Colorado?

Mr. BORAH. I yield.

Mr. THOMAS. I think the Senator was just reading from a letter from a citizen of San Francisco?

Mr. BORAH. No; a citizen of Watsonville, Cal.

Mr. THOMAS. The writer states, does he not, that there is abundant water for San Francisco at present?

Mr. BORAH. Yes.

Mr. THOMAS. Will the Senator permit me to read right here a notice from the Spring Valley Water Co. which it gave to the people of the city of San Francisco last summer? It is headed:

THE WATER SUPPLY—WARNING.

The water consumption in San Francisco now exceeds the safe, dependable supply available for distribution. Until the city or the company can increase the development of sources now owned and install more aqueducts to San Francisco, extreme care must be exercised in the use of water or the supply will fail. Stop all waste; stop hosing steps and sidewalks with water. Please prevent all unnecessary use of water. We earnestly ask for your cooperation in maintaining the supply. SPRING VALLEY WATER CO.

Mr. BORAH. Yes; I have read that.

Mr. THOMAS. Does not the Senator believe that the company which supplies this water would scarcely issue a notice of this kind if it were not for the fact that the shortage of the supply makes it absolutely essential for the welfare of the city?

Mr. BORAH. Mr. President, I read that notice the other day in a special edition of the San Francisco Examiner which came out in this city, and reflected upon it at the time. When you come to examine that notice it is no more than such a notice as any water company might very well give to its patrons, namely, not to waste so valuable a thing as water in an arid region.

Mr. THOMAS. Does the Senator recall any other notice of this kind?

Mr. BORAH. The notice is not to waste the water, which should not be done at any time, but it also says "until further developments are made," which developments are now in process

and arranged for, and which will take place whether this bill goes through or not, and which, when they have taken place, will, according to the reports, give an ample supply to the city for the next 10 or 15 years.

Mr. THOMAS. But the statement is made that—

Until the city or the company can increase the development of sources now owned and install more aqueducts to San Francisco extreme care must be exercised in the use of water.

Mr. BORAH. Exactly.

Mr. THOMAS. My interpretation of it is that the company is obliged to issue this request and insist upon its observance because of the fact that it has not sufficient water to go around and supply the real needs of San Francisco.

Mr. BORAH. Mr. President, the attorney whose letter I am reading states very frankly that the conflict in San Francisco between the water company and the city of San Francisco has been such for a time that they have not kept up the supply and provided for the increased demands of the city. I have no doubt that that is true; at least, whether it is true or not, I am perfectly willing, for the sake of the argument, to admit that it is true—

Mr. NORRIS. Mr. President—

Mr. BORAH. Just a moment; but notwithstanding that that does appear, according to the reports the Senator from Colorado will remember—and he is more familiar with the facts than I am—that with these provisions for an increased supply and the arrangements which have been made and which will be carried out, an increased supply will be given sufficient to take care of the wants of the city for many years to come.

Mr. THOMAS. Oh, yes. Mr. President—

The PRESIDING OFFICER. Does the Senator from Idaho yield further to the Senator from Colorado?

Mr. BORAH. I do.

Mr. THOMAS. That is true; but the Senator must not forget that this increased supply through the source of the Spring Valley Co. is one which affects, and injuriously so, the agricultural interests and development in the vicinity and neighborhood from which the supply is to come; that is to say, that no supply, whether it comes from the Spring Valley source, from the McCloud River source, from the Sacramento River source, or from anywhere else, can be had without confronting the same difficulty, the same opposition, and inflicting the same injury.

Mr. SMOOT. Mr. President—

The PRESIDING OFFICER. Does the Senator from Idaho yield to the Senator from Utah?

Mr. BORAH. I yield.

Mr. SMOOT. In the hearing before the Committee on Public Lands of the Senate on Senate joint resolution 123 in February, 1909, the same question arose. Mr. McCutcheon, who testified before the committee at that time, gave the committee to understand that in the development of the water for the city of San Francisco as planned by the Spring Valley Water Co.—and, by the way, I suppose the Senator knows that he represented the company at that time—there was to be no interference whatever with agricultural lands. If there is some testimony on that point anywhere in the hearings of a later date I do not know where it is; and I will ask the Senator if he can recall any testimony showing that the plan mapped out by the Spring Valley Water Co. will interfere with agricultural lands.

Mr. THOMAS. My recollection is that at the hearing before the Senate committee last year Mr. Freeman was examined, or, rather, during the course of his statement some questions were asked bearing upon this subject, and that there and elsewhere—although I am not able at present to speak specifically as to any particular part of the testimony or hearing—statements were made to the effect that any further pressure upon the water supply will diminish the present level of the subsurface water, and to that extent affect injuriously the farms and ranches dependent upon that supply for their moisture.

I should think that would appear to be an inevitable consequence, because if the present supply of the company is 37,000,000 gallons per day, and that is increased to 100,000,000 gallons per day, the added draft upon the general source of supply must necessarily diminish the quantity which is available for agriculturists. It does not make any difference whether or not the Spring Valley Co. declares that it does not propose to interfere with agricultural rights; the fact remains that it will necessarily injuriously affect them.

Mr. SMOOT. Mr. President, I think the underground storage system that has been adopted by the Spring Valley Water Co., and percolation from that system into the mains, are such as not to interfere with the waters that are used for agricultural purposes. The water comes from a watershed whose slopes are very precipitous and goes from that watershed into an underground reservoir. I understand, at least, that as far as the in-

crease of water for the Spring Valley Water Co. is concerned, it does not in any way affect the agricultural interests of California.

Mr. THOMAS. We differ as to that, then.

Mr. NORRIS. Mr. President—

The PRESIDING OFFICER. Does the Senator from Idaho yield to the Senator from Nebraska?

Mr. BORAH. I yield to the Senator from Nebraska.

Mr. NORRIS. I wish to inquire of the Senator if this Mr. Gardner, who has written this apparently quite lengthy letter, discloses in the letter any means of knowledge that he has of the facts of which he is speaking in regard to the water?

Mr. BORAH. No; he simply asserts that they are facts within his knowledge.

Mr. NORRIS. He does not live in San Francisco?

Mr. BORAH. Oh, no; he does not live in San Francisco.

Mr. NORRIS. Does the Senator know how far from San Francisco he lives?

Mr. BORAH. No; I do not; but there are not very many people who live in California who do not know a great deal about San Francisco.

Mr. NORRIS. I have no doubt he has been there if he is a lawyer; but I should like to ask the Senator now this question, which I ask without making any reflection on Mr. Gardner—I think that is his name. I do not know him, of course. I never heard of him before. He may be absolutely accurate and absolutely right. He says he is a lawyer. It seems to me the Senator must concede that on the simple statement of a man who shows in his own statement that he does not reside there, at least, we ought not to give very great weight or consideration to that kind of a letter at this time. I wish to ask the Senator if he does not agree to that proposition.

Mr. BORAH. No; indeed I do not, Mr. President.

Mr. NORRIS. Does the Senator think, then, that any man who sends in a letter here without disclosing on the face of it that he has any knowledge and who simply makes assertions, ought at this time, particularly after opportunities for investigation as to what he says have all passed by, to be given great consideration by the Senate?

Mr. BORAH. Mr. President, we proceed here and legislate all the time, from day to day, upon newspaper clippings and upon petitions and upon letters printed in the Record, and in every other way convey information to our minds. We determine for ourselves, upon our own sense of what is right, and upon our own ideas, as to the probable standing and character of the person, and as to whether the information given by him is right or reliable.

Here is an attorney apparently practicing law in a city in California; and, as I say, one thing which leads me to believe that he is not wholly without reputation and character and standing is the fact that he asserts these things. He says he has traveled over this territory it is sought now to grant, and that he evidently knows these facts. Another thing: He does not do as a great many other people have done who have written me from California and say, "Do not use my name." He is willing to stand upon what he says, and to have the world know that he has said it. Therefore I felt that it was reasonably safe to put it before the Senate.

Mr. NORRIS. I have not complained that the Senator has put it before the Senate. I have not even suggested that it is not admissible. The suggestion I made to him, which he seems to repudiate, is, coming at this time from some one who does not show the means of his knowledge, whether or not it ought to have very great weight with the Senate.

It is a question as to how much weight I think we ought to give to that kind of a statement. If letters of that kind are to decide this question, it seems to me we will have to wait until to-morrow, when we commence to ballot, and see who sends in the last letter.

Mr. BORAH. I really think we ought to wait until to-morrow, when we commence to ballot; that is, be ready to accept new matter. Something might come in here to-morrow which would control the judgment of this body.

Mr. NORRIS. Oh, that is true. It may be that to-morrow there will be laid on our desks a communication from some man who has an entirely new source of supply that never has been investigated.

Mr. BORAH. Yes; there may be another edition of the paper. [Laughter.] Who can tell?

Mr. NORRIS. Yes; that might happen.

Mr. BORAH. I desire now to read an article by the editor of a paper called *Alfalfa*. It has been printed in the *New York Evening Post*. I think it is worthy of our consideration, although, of course, it would not be accepted in court as evidence. Nevertheless, it may be a matter which we will want

to consider, as this man evidently knows what he is talking about:

Sir: The newspaper comment upon "The fight for the Hetch Hetchy" shows that "the opposition is based partly on the general principle that national-park territory, the property of all the people, should not be surrendered," etc.; "partly on the theory that the scheme involves the destruction of one of the Nation's beauty spots"; and "partly on the suspicion that San Francisco's interest in the Hetch Hetchy is due to its possibilities as a source of hydroelectric power."

Now, it is curious, from our standpoint here in the San Joaquin Valley, that the contention of the people who would be most directly affected by the diversion of the waters of the Tuolumne River should be entirely ignored in the East. It is held by Congress, and I think properly so, that the doctrine of "highest use" should govern the disposition of public property, whether in land or water. If San Francisco or some other community is in dire need, a need which can only be satisfied by the grant of the proposed privileges, then pass the bill, even should the land remain dry. But we contend and are able to prove that there is no such need.

May I tell you why the irrigation districts of Modesto and Turlock, in the county of Stanislaus, are strenuously opposing the claims of San Francisco?

The San Joaquin Valley is a broad, level expanse, the bed of an ancient arm of the sea, reaching from the Tehachapi Range on the south, with Bakersfield at its base, to the mouth of the San Joaquin River, where it joins the Sacramento, at Suisun Bay. On the west is the Coast Range and on the east the high Sierras. The valley is 200 miles long and 40 to 60 miles wide from foothills to foothills, and contains seven and a half million acres, almost all of which is arable. The average rainfall at Modesto is 19 inches, and at Fresno 9 inches, with a much heavier precipitation in the mountains. It is from the mountains, holding back in their forests and valley reservoirs the snows of winter, that the dry valley below must depend for its supply of water.

In earlier years irrigation systems were established, mainly by private capital, as commercial enterprises, tapping the rivers as they emerge from the foothills or in some cases pumping the water from the lower rivers. It was the argument of the proponents of the bill that the people of the valley had been unmindful of their opportunities and had "let their rivers run idly to the sea."

We heard something about that this afternoon—

The reply to that statement will be found in the last volume of the United States Census on irrigation, in which it will be seen that up to 1910 the eight valley counties have spent \$20,000,000, in round numbers; were irrigating 1,383,000 acres, and had under existing projects (bona fide undertakings already begun) 2,690,000 acres. Certainly no lack of diligence in making beneficial use of waters of their rivers. In some cases, however, progress was retarded for lack of capital or from the fact that some of the systems were the property of large land and cattle companies who did not care to develop their lands for purposes of settlement.

In Stanislaus County (say 50 miles south of Sacramento and the same distance east of San Francisco) the Turlock and Modesto irrigation districts, including together 257,000 acres, were organized in 1887, and the La Grange Dam and canals on the Tuolumne were completed and the water turned on in 1903. The cost of the works was about \$2,000,000. Mark the result: In 1902 the banks of Stanislaus County held \$871,000 in deposits; January, 1913, they held \$6,417,000. There were two banking towns in the county in 1902; there are now nine. There were about 100,000 pounds of butter made for market in the county 10 years ago; now Stanislaus is the banner butter-producing county in the State, producing last year 6,894,225 pounds. There was no alfalfa, except in small areas of river bottom, before the water came; now there are about 130,000 acres in the county and more being seeded every year. Record crops of 10 and 12 tons of hay in a season are made. So much for production. In population Stanislaus County increased in the last decade from 9,550 (after a period of decline) to 22,522, an increase of 135.8 per cent, which was greater than that of any other agricultural county in the State and second only to Los Angeles. All this remarkable development may be attributed to irrigation and to nothing else; without irrigation it would have been impossible.

HOW IT WOULD AFFECT IRRIGATION.

Between the irrigation districts and the foothills of the Sierras is a wide tract of stubble land and pasture, probably greater in extent than the Modesto irrigation district. It is capable of irrigation from the same source—the Tuolumne River. The run-off of this river, which takes it rise under the giant peaks just north of the Yosemite Valley, through which flows the Merced, varies from some 800,000 acre-feet to upward of 3,000,000 acre-feet, showing a great variation between the wet and dry years.

Without going into bewildering details, suffice it to say that in some years, as in the two just past, there has not been sufficient water in the river to give the irrigated lands the water required for their crops, to say nothing of the amount upon which they had filed. Irrigation stopped in August instead of continuing to the 1st of October, as it should.

Now, whatever prejudiced engineers may say, any project to permit a considerable amount of water to be drawn from the river, whether it be called "flood water" or "natural flow," could not be otherwise than injurious to the interests of the irrigators. True, provisions of the bill permit them to buy surplus water at cost of storage, under certain onerous conditions, and also permit the districts to buy electric power "when any such excess of electrical energy may not be wanted for pumping the water supply for said grantee." Such protection, regarded also by San Francisco as "restrictions" to be got rid of later by legal process, is absolutely worthless. It is to be noted, too, that the amount of water filed upon and claimed as necessary by the irrigators, 9,500 second-feet, has been arbitrarily cut down by the bill under consideration to 2,350 second-feet. Is it surprising that the farmers of the valley oppose the scheme?

It is claimed that the people of the districts affected consented to the passage of the bill. Not so. It is true that their representatives, overawed by the attitude of the proponents of the bill, gave up their opposition. The county board of trade and the water users themselves never gave their consent, and they now, with a large proportion of the press and public bodies, are firmly opposed to the bill.

That, Mr. President, is written by a man who evidently knows something of the situation. I call attention to the fact as to this question of diligence, of proceeding to the ripening of their claims as to this water, as to the amount of money which they

have expended there, of all people in the world, you can not expect a farmer who has gone out for the purpose of reclaiming his farm to expend any more money than is necessary to supply the particular amount of water which he wants for the particular year. That is to say, if they had a certain acreage in these districts they would, in the first instance, reclaim sufficient to cover the acreage in those districts, but they have filed upon a very much larger amount. They have arranged for the diversion of a very much larger amount. The evidence of their good faith lies in the fact that they are there upon their farms improving them, extending the area, voting bonds to reclaim them, and paying interest upon the bonds, and increasing from year to year as their means will permit them to do.

I have not any doubt, Mr. President, from the facts stated here in this record upon the part of all parties that the irrigable lands of the San Joaquin Valley are entitled to all the water that is necessary for their irrigation upon the ground of diligence and upon the fact that they have thus far kept their water right alive under the statutes of the State of California.

It is hardly fair to say that those men who have been making homes under some stress of condition have been letting this water run on useless to the sea, and that we are simply taking up that which would become waste water, when it is shown here that they have expended millions of dollars for its reclamation and have undoubtedly reclaimed it as fast as their means would permit.

Now I come to another feature. It is constantly urged that they consented to this bill as it was originally drafted and as it passed through the House. There is an extraordinary condition of affairs presented in regard to that. No man knows why those representatives consented to that change. It is far from me to assert that there was any reason for their change which would come under the term of corruption, or anything of that kind, because I have no knowledge of any such thing, and I would not for a moment assume it unless there was some fact. But this condition of affairs is disclosed by the record, that the farmers and the water users in the San Joaquin Valley have been opposed to this proposition from the beginning; that they expressed their opposition to it in different ways from the time it was first agitated; and that these men were sent here to the city of Washington not to compromise, not to agree, but that they were sent here to oppose the passage of this bill. It is clear as to purpose, the motive for which they were sent, and the status of mind of those who sent them. They were not sent here for the purpose of making a compromise, but they were sent here at the expense of the water users for the purpose of opposing the passage of the bill.

After they arrived here, for some reason that was unknown to their principal and some reason unknown to me, they concluded to enter into this compromise, and undoubtedly thought when they made the compromise that it was not only sufficient in fact but sufficient in law, unless there were other reasons moving, about which I know nothing.

Mr. President, what has happened since that took place? The very fact that those men are no longer representing the water users and that others have been selected in their place—other officers chosen—discloses that the water users were not represented in this compromise—I was about to say deal—at any rate in this settlement. Even the Congressman who represented that district was led to believe that that was a satisfactory settlement to protect the water users, and he gave his consent, as I understand, to the agreement. But the Congressman also learned upon a visit to his constituency that there had been a misunderstanding or misrepresentation upon the part of the representatives in Washington, and he put into the Record upon last evening, through the Senator from California [Mr. Works], his opposition to this bill, stating that he was from the beginning opposed to it and was led to accept this agreement, but now, as the representative of those people, he is opposed to its passage.

I think I am warranted in saying that it is a rather extraordinary situation, because it brought about a one-sided investigation on the part of the Public Lands Committee. There never was any real contest before that committee upon the matters which are now before the Senate. After that compromise was entered into it simply became a question whether San Francisco, without any real opposition, could establish her right to have this water under the terms of this grant.

As I said this afternoon, not seeking for a moment to criticize the Public Lands Committee, because I know that they are careful, yet I have no doubt but if a contest had gone on, if the compromise had not been reached, this bill would not have come into the Senate with these terms, if it had ever reached here with a favorable report at all.

Mr. MYERS. Mr. President—

The PRESIDING OFFICER. Does the Senator from Idaho yield to the Senator from Montana?

Mr. BORAH. I yield.

Mr. MYERS. I rise to ask the Senator to what Public Lands Committee he refers that had a one-sided hearing, the Public Lands Committee of the House or the Senate?

Mr. BORAH. I have reference to the Public Lands Committee of the Senate.

Mr. MYERS. I wish to state that the Senator is in error about that, because the parties who were opposing this bill appeared before the Public Lands Committee of the Senate and took a whole day practically to make their argument.

Mr. BORAH. The representatives of the water users' association?

Mr. MYERS. One was there, a Mr. Lehane.

Mr. BORAH. I am familiar with the appearance of Mr. Lehane before the committee. That was after this contract had been entered into, after the arrangement had been made, and after the committee was led to believe that the water users' association, through their representative, had had all that they were entitled to have.

Mr. MYERS. But it was after some of the water users had repudiated the action of their representatives in making the compromise to which the Senator refers. The opposition of the water users was active at that time.

Mr. BORAH. I am not seeking to censure the Public Lands Committee at all.

Mr. MYERS. I know the Senator is not censuring it. I merely wanted to have the facts stated correctly, that is all. We had a hearing, and both sides were represented.

Mr. BORAH. I understand the facts to be that after this agreement was reached the real contest both before the Public Lands Committees of the House and Senate was practically eliminated by reason of that agreement. It is true that there gradually reached the farmers in the San Joaquin Valley the fact, and farmers are sometimes slow to move, they are slow to wrath, and they did not immediately express their views in regard to it; but finally, just at the very close of the hearing, Mr. Lehane appeared. When Mr. Lehane appeared here, it was charged that he did not represent the farmers at all, that he was representing some speculative proposition, and that the real representatives of the landowners had been here and foreclosed the proposition.

Mr. SMOOT. Mr. President—

The PRESIDING OFFICER. Does the Senator from Idaho yield to the Senator from Utah?

Mr. BORAH. I do.

Mr. SMOOT. I want to say to the Senate that the statement just made by the Senator from Idaho is exactly as I understand it. I was not present at the last hearing. It was held at a time when I was in Utah, as the chairman well knows. But I was at the hearing or pretended hearing before, and there was no opposition whatever. All were asking that this compromise that was made by the House and put into the bill be passed by the Senate.

Mr. MYERS. Mr. President—

Mr. SMOOT. Just a minute, please. The Senator from Montana knows that the representatives of the Water Users' Association made the statement positively that unless the objectionable regulations were in the bill they did not want the bill to pass, and the representatives of San Francisco said that they preferred the regulations not to be in the bill, but they compromised the matter so that they could get votes enough in the House to pass it.

Mr. MYERS. Mr. President, as to the hearing before the Senate Committee on Public Lands, which the Senator from Utah denominated a pretended hearing, he ought to know whether it was a pretended hearing or not, because he was the chairman of the committee at that time. He denominated it a pretended hearing, but the time had been set for it. I was not able to be there at that time, and I am not prepared to speak so much about what was done at that time. I was in and out, but I was not there all the time.

The last time, when the Senator from Utah was not present, the opponents of the bill were afforded all opportunity to oppose it. That was after the water users had repudiated ex-Representative Needham and their other attorneys and agents and declared they were sold out—when Mr. Lehane represented some of them. There was no opposition made to his appearing. Nobody, according to my recollection, branded it as being a speculation, and they were afforded all the opportunity they wanted. That is all I can say.

Mr. SMOOT. Mr. President—

The PRESIDING OFFICER. Does the Senator from Idaho yield further to the Senator from Utah?

Mr. BORAH. I yield.

Mr. SMOOT. I want to remind the Senator that before I ever left Washington to go home I asked the chairman of the committee if this measure could go over and not be reported in my absence, and I understood the chairman to say that it would not be reported.

Mr. MYERS. Oh, no; I did not say that it would not be reported. I said that as far as I was concerned it would not be; that I would request for the Senator a postponement, which I did.

Mr. SMOOT. I was going on to say that when I left here that was the understanding and I want to add, Mr. President, if I had been in this Chamber—and I would not have left the city if I had thought the bill was to be reported, for my daughter could have been married without my presence, the same as my son was the year before—I never would have allowed the unanimous-consent agreement to be made, and this measure would have been thrashed out upon its merits, no matter how long it would have taken to do so.

Mr. MYERS. I am as sorry as the Senator from Utah that there was any unanimous-consent agreement given, but the advocates of the bill were forced to enter into that arrangement because the bill was being pressed and it was impossible to reach a vote at that time.

Mr. BORAH. Mr. President, I do not want the Senator from Montana to understand that I am criticizing the Public Lands Committee.

Mr. MYERS. Oh, not at all.

Mr. BORAH. I know precisely the modus operandi by which the matter was diverted from a contest.

Mr. SMOOT. In this connection, if the Senator will just permit me, I think the Senator from Montana knows what was my position. I was opposed to the regulations that were put in this bill, and that is what I was opposed to more than any other thing. I wanted the question of regulations taken out of the controversy and the bill reported to the Senate without those regulations in it.

Mr. MYERS. I called the attention of the committee to the attitude of the Senator from Utah, and I, myself, personally voted against making a report of the bill in his absence, but I am not the committee and I can not control the committee.

Mr. BORAH. Mr. President, I ask leave to insert in the RECORD, without reading, the resolutions of the annual meeting of the San Joaquin Valley Water Problem Association, representing the eight counties of San Joaquin Valley, at Merced, Cal., November 17, 1913.

The PRESIDING OFFICER. Without objection, it is so ordered.

The resolutions referred to are, as follows:

Resolution No. —, adopted at the annual meeting of the San Joaquin Valley Water Problem Association, representing the eight counties of the San Joaquin Valley, at Merced, Cal., November 17, 1913.

Whereas the control of floods and the irrigation of arid lands in the San Joaquin and Sacramento Valleys constitute in reality but two phases of one problem; and

Whereas in the San Joaquin Valley there is a deficiency in the water supply, and even with the complete conservation of all the waters in the valley, there will be an insufficient supply of water with which to irrigate efficiently all the irrigable lands in said valley; and

Whereas in the Sacramento Valley there is an excess of water, and, with its proper conservation, all of the land in the valley can be irrigated and navigability of the Sacramento River remain unimpaired and a supply of water left for diversion to other localities; and

Whereas the city of San Francisco is attempting to divert water from the San Joaquin Valley and take it to San Francisco for municipal purposes; and

Whereas we believe that every unit in the development of water control in the Sacramento and San Joaquin Valleys should be constructed as a part of a comprehensive whole designed ultimately to accomplish the full development of both valleys and the conservation to the utmost of their resources:

Resolved, That we deprecate this attempt of San Francisco to violate what we believe to be one of the fundamental principles of the conservation of the resources of the interior valleys of California, because it is entirely unnecessary, and because great injury will result to water users if water is so diverted from the San Joaquin Valley; and, further, because the Sacramento Valley offers an ample source of water supply for San Francisco's need without injury to anyone.

Resolved further, That we hereby declare it to be the sentiment of this association that no water should be diverted from the San Joaquin Valley for any purpose, but that all its waters should be retained in the valley for the irrigation of the arid lands therein, and that in every attempt at water control the two valleys should be considered as a whole, so that the development of one should be supplemental to the development of the other.

We therefore instruct our secretary to forward a copy of these resolutions to each Member of Congress.

Mr. BORAH. Without taking the time of the Senate to read it, I also ask to have inserted a letter from Mr. A. L. Cowell, dated San Francisco, November 26, 1913, in regard to the passage of those resolutions, and discussing the same subject matter.

The PRESIDING OFFICER. Without objection, it is so ordered.

The matter referred to is as follows:

SAN JOAQUIN VALLEY WATER PROBLEM ASSOCIATION,
San Francisco, Cal., November 26, 1913.

Hon. W. E. BORAH,
United States Senate, Washington, D. C.

DEAR SIR: At the annual meeting of the San Joaquin Valley Water Problem Association, held in Merced, Monday, November 17, a resolution was adopted protesting against the diversion of any water from the San Joaquin Valley. I inclose herewith a copy of this resolution, and I was instructed to present with it a statement of the reasons for its adoption.

WHAT THE ASSOCIATION IS.

The association was organized about a year ago to consider the general problem of the conservation and utmost possible use of the available waters in the San Joaquin Valley. It has over 40 members, representing all of the eight counties of the valley. The most of the members are chambers of commerce, boards of trade, irrigation districts, and mutual water companies. There are seven private corporations belonging to the association, but none of them have any pecuniary interest in the Hetch Hetchy controversy.

FUTURE OF THE STATE SHOULD BE CONSIDERED.

We contend that any measure like the bill to grant the city of San Francisco the use of Hetch Hetchy Valley as a reservoir should be considered with special relation to its effect upon the future development of the State. The fact that the waters of the Tuolumne River have not all been used for irrigation does not justify Congress in allowing the diversion of water which would certainly be used for irrigation in the natural course of the development of the San Joaquin Valley. California has only begun to awaken to its agricultural possibilities. Because the owners of large tracts of land have preferred to hold them undeveloped to profit by the natural increase in land values rather than to provide for their intensive cultivation is no reason why a large section of the State should be condemned to permanent aridity and the public lose the benefit of the wealth that this land under adequate irrigation could produce.

VALLEY'S WATER SUPPLY INADEQUATE.

The official records show that if all of the waters of the San Joaquin Valley could be conserved there would still be an inadequate supply for the irrigation of the arable lands in the valley. The report on the irrigation resources of California, prepared under the direction of Frank Adams and published as a part of the report of the Conservation Commission of the State of California in 1912, and later published as a bulletin of the United States Department of Agriculture, shows that the irrigable area of the valley exceeds 6,000,000 acres and that the average annual run-off of the valley is about 12,000,000 acre-feet. This would be insufficient in average years to provide such irrigation as is needed for a soil that is in nearly all places of a loose sandy nature, and where the growing season is from 9 to 10 months; and, of course, in years when the rainfall is below the average amount, the shortage of water would be more apparent.

It should be emphatically stated that the less the supply of water the greater is the need for it, as a shortage in the general supply indicates a scantiness of the season's rainfall and irrigation in greater quantities is needed to make up the deficiency. Consequently no plan for the ultimate development of the valley can be complete which does not take into account the necessity for providing an extra supply of water when the natural supply is below the normal amount. Further, it should be noted that in California dry years usually come in cycles, so that it will sometimes be necessary, if all the storage capacity of the valley is to be used to the best advantage, to carry water over more than one season.

Again, it must be remembered that the amount of water available for irrigation is not the total run-off of the valley, but the amount that it is practicable to store and to divert into canals. There will always be some waste, which makes it all the more certain that with the utmost possible conservation of water there will be some portions of the valley which can not be irrigated unless it should prove feasible, as many believe, to bring water from the Sacramento Valley for this purpose.

A MANIFEST ABSURDITY.

While our association has seriously considered the ultimate necessity of bringing water from the Sacramento Valley to irrigate lands which our own water supply is inadequate to develop, it seems to us manifestly absurd to allow San Francisco to further deplete our natural water supply instead of bringing water for domestic purposes from the part of the State where official records show that there is now too much water. That the bringing of water for irrigation from the Sacramento Valley to the San Joaquin Valley is to be considered only as a last resort is practically admitted in the brief of the city and county of San Francisco and other bay cities before the Senate Public Lands Committee, Sixty-third Congress, 1913, by Percy V. Long, city attorney of San Francisco, and others, in which, on page 18, in commenting upon the suggestion that San Francisco should pump water from the Sacramento River for its domestic use, it is said "there remain very serious objections to this source. First, the heavy operating cost of such a system . . . ; third, the probability that irrigation needs within the next century will withdraw so much water from the upper Sacramento that the high tides of the bay will mingle with the stream below Sacramento and render it unfit for use." If San Francisco regards the lower Sacramento River as an impracticable source for domestic purposes on account of these reasons, it can hardly insist that the people of the San Joaquin Valley be forced to this method of retrieving the supply of water which the city proposes to take from the Tuolumne watershed.

VALLEY CAN USE WATER WHICH SAN FRANCISCO WANTS.

A persistent effort has been made to convince Congress that the water which San Francisco proposes to take from the Tuolumne River would otherwise go to waste. This is an error against which we protest most emphatically. That it has been so generally accepted as true is proof that the measure now pending in Congress has not been considered with a full understanding of the conditions prevailing in the San Joaquin Valley.

Under this head two questions are raised:

First, Is the cost of the water storage which San Francisco contemplates so great as to be prohibitive for irrigation purposes?

Second, Is there sufficient area that can be reached economically with this stored water to make beneficial use of it?

Regarding the first question, the impression has assiduously been given that the immense cost of the so-called Hetch Hetchy project is in the storage of water, whereas the truth is that the bulk of the expense will lie in the costly conduits and other works that will be necessary to bring that water to San Francisco. On pages 130 and 131 of the pamphlet entitled "The Report of the Advisory Board of Army Engineers to the Secretary of the Interior," in the report by H. H. Wadsworth, of the advisory board, are given estimates of the cost of the Hetch Hetchy project for various capacities. In these estimates the total cost of the Hetch Hetchy reservoir, including the construction road, with temporary railroad, and the proposed scenic road, is less than \$5,000,000, and on page 11 of the same pamphlet the storage capacity of the reservoir is given as 344,000 acre-feet. Assuming that the total cost would be \$5,000,000, and that the storage capacity would be only 300,000 acre-feet, we would have a cost of \$16 2/3 per acre-foot. Even supposing that additional items of expense for the purchase of lands in the Hetch Hetchy Valley, etc., might increase the cost of storage to \$20 per acre-foot, that would not be a prohibitive cost for irrigation. The south San Joaquin irrigation district, which takes water from the Stanislaus River, has recently voted bonds to the amount of \$790,000 for the construction of a reservoir having a capacity of not more than 70,000 acre-feet, an actual cost of over \$11 per acre-foot. While the cost of storage in foothill reservoirs is usually less than this, it is well known that an acre-foot of stored water, taking into account the reduction in the estimated capacity of the Hetch Hetchy reservoir, indicated above, would provide two irrigations for an acre of alfalfa. A conservative estimate of the net profits from these two crops would be \$5 per annum. In other words, the cost of \$20 per acre-foot for the storage of water could be met out of the profits of four years' use of that water, leaving the reservoir a practically free asset of the land forever. No one will have the hardihood to say that income-producing property which will pay for itself in four years is beyond the reach of even the farmers of the San Joaquin Valley.

The same report estimates the cost of permanent dams at Lake Eleanor, Poopenaut Valley, and on Cherry Creek, at \$9,220,000, which Mr. Wadsworth admits in a note may be somewhat greater than necessary. Assuming that the cost of the practicable construction, water rights, land, etc., at these sites would be a total of \$10,000,000, and reducing the estimated capacity of the reservoirs to a total of 250,000 acre-feet, we have a cost of \$40 per acre-foot for the stored water. This is greatly in excess of what is now regarded as practicable storage for irrigation, but on the basis of the calculation given above, even such storage could be paid for out of the profits of eight years of the use of the water. As a matter of fact, the so-called practicable limits of irrigation cost in the San Joaquin and Sacramento Valleys have been low because of the relative abundance of water for such development as has been undertaken. In southern California it is not uncommon for water rights to bring from \$1,500 to \$2,000 per miner's inch of continuous flow. Counting 40 miner's inches to the second-foot, a miner's inch of continuous flow would furnish about 18 acre-feet per year, so that from \$80 to \$100 per acre-foot is not regarded as an excessive price in southern California. The land of the San Joaquin Valley is as fertile, and within a comparatively short time, with the rapid increase in population of California, will be as valuable as the land of southern California. Therefore the time is not far distant when even \$40 per acre-foot for an unfailing water supply will not be considered prohibitive.

Furthermore, it should be remembered that as San Francisco proposes to reduce the net cost of the Hetch Hetchy project by making use of the great power possibilities of that project, the irrigation districts that would be formed to make use of the water for irrigation could reduce the net cost of these reservoirs by making similar use of these power possibilities.

On the second question, as to the possibility of using all of the available water of the Tuolumne River in the San Joaquin Valley, we would emphasize the point that the land that can use the water of this river is not limited to the Modesto and Turlock irrigation districts and the small irrigable areas lying east of them. There is a large reservoir site lying east of the Turlock district and north of the Merced River, known as the "Dry Creek site." It is practicable to divert water from the Tuolumne River into this reservoir. A movement is now well under way to organize a large district, comprising about 270,000 acres, in Merced County. Its source of supply is to be the Merced River, but in making the surveys to determine the boundaries of the proposed district it was learned that water could be diverted from the Dry Creek reservoir to cover at least 400,000 acres of land in Merced and Madera Counties east of the San Joaquin River. By pumping water to the levels above such an irrigating system, the area could be increased by probably 100,000 acres. The engineers who are advising the people planning the Merced irrigation district do not believe it would be safe, with the available storage capacity, to include more than 270,000 acres in the Merced district to be irrigated from the Merced River. But if the supply of that river could be augmented by water from the Tuolumne River it would be possible to bring under intensive cultivation the entire area that could be reached from the Dry Creek reservoir. Furthermore, there is a large area on the west side of the San Joaquin River, amounting to at least 150,000 acres, which could be irrigated with the water carried in conduits from the east side of the valley or allowed to flow to the San Joaquin River and thence pumped to the west-side lands with the power developed from the reservoirs in the mountains.

According to the report heretofore referred to, prepared under the direction of Frank Adams, and according to the survey made by the proponents of the Merced irrigation district, there is an area of not less than 1,000,000 acres that could be irrigated from the Merced and Tuolumne Rivers. The same report shows that the total average flow of these two rivers is about 3,300,000 acre-feet. Assuming that 75 per cent of this run-off could be put to beneficial use, this would give a supply of 2 1/2 acre-feet per acre for this area in years of average rainfall, which would mean a scanty supply in the numerous years of deficient rainfall. This would leave the total flow of the upper San Joaquin River to be utilized for irrigation in Madera County and that vast area of fertile land known as the Upper West Side, which has no other practicable source of supply.

EFFECT OF DIVERSION UPON NAVIGATION.

One other point, from the standpoint of our association, is worthy of special note. A survey is now being made at the joint expense of the National and State Governments to determine to what extent it may be practicable to use the San Joaquin River for navigation. The river is now used by light steamers and gasoline launches with barges for a considerable distance above Stockton, and at certain periods of the year it is navigable higher up. The use of the water for irrigation,

where proper drainage is provided, results in the return of a considerable quantity of water to the San Joaquin River, which is the main drainage artery of the valley. The diversion of water to San Francisco would mean absolute loss of any benefit from that much water for navigation. With the rapidly increasing use of light craft in the river and the special study which the Government is now making of the navigation problem on this stream, this point deserves special consideration. Assuring you that our desire is not to deprive San Francisco of a water supply, but to insist upon such a study of the entire problem as will insure its settlement in a manner that will result in the utmost possible use of the waters of the State, I am,

Yours, respectfully,

A. L. COWELL,

Secretary of San Joaquin Valley Water Problem Association.

P. S.—In this statement I have been able to do little more than outline the general principles involved in the controversy. Several representatives of San Joaquin Valley interests will be in Washington to supplement the arguments with specific data.

A. L. C.

Mr. BORAH. I read a line or two from a letter dated Haywards, Cal., October 17, 1913. This letter was sent to Rev. Daniel Gamble, who is a constituent of mine, and it was written by his brother. He says:

MY DEAR BROTHER: I wish you would call Senator BORAH's attention to the question of granting to San Francisco the Hetch Hetchy Canyon as a source of water supply.

Then he goes on to discuss the park privileges and the necessity, in his judgment, of maintaining the park as a whole, and says:

Second. All the water of Hetch Hetchy is needed for the parched and arid plains through which it flows. In the last 10 months I have six times crossed the territory to which Hetch Hetchy belongs, and I can say that in its whole length and breadth it is a waste of sand. We have had two dry winters there. I lived there for several months at a time and I know the situation well. The farmers there are spreading the Hetch Hetchy waters over the thirsty ground as fast as they can, but as yet the results are only some green oases of alfalfa small and far apart. There were practically no grain crops the last two years in the San Joaquin, nor the usual hay crops, except irrigated alfalfa. Last year Charles—

I suppose it is his son, likely, of whom he speaks—
had no grain—

And so forth.

That letter is read for the purpose of illustrating the situation in which those farmers find themselves at the present time. They have undoubtedly been doing what they have done under a great stress of circumstances, and it seems to me that it could be nothing less than an absolute imperative necessity on the part of San Francisco to take these waters away from the San Joaquin farmers.

Mr. President, I pass now to a brief discussion of the question of other sources of supply, to which I have referred heretofore.

I want Senators to bear in mind that there is only one question in the proposition of the other sources of supply under dispute, and that is the question of cost. All other propositions have been settled by the showing of San Francisco itself. All other propositions are put at rest by the report of their own engineers and of their own experts. If there were no river, no other source of supply, there would be no argument upon the floor of the Senate against this proposition; but when their own reports, uncontested, disclose other sources of supply to be ample and sufficient and it becomes a mere question of cost, then I feel that it is a legitimate proposition to place the detriment and the damage it will do to other parts of California and to the country against ten or twenty million dollars of extra expense.

The other rivers are accessible if you simply add an extra amount for the purpose of bringing the water to the point of use. The proposition with which this was placed before the country, that there were no other sources of supply, that they were impracticable, has disappeared as the discussion has proceeded, and now it is simply a question of dollars and cents, with the dispute among the experts as to what that would be.

How much do you suppose the San Joaquin Valley is worth? What is it worth to the people of California, to say nothing of the farmers themselves who have their homes there and those who desire to make homes; to say nothing of giving encouragement to the home builders or those who are seeking to get away from the more congested centers of the earth and make homes; to say nothing of those things, how much do you suppose it is worth in dollars and cents to the other parts of California and to the country to have that valley protected from eternal waste? Is it to be measured by ten or twenty or thirty million dollars?

Is there any difference between taking the money in the way of property from the United States Government and turning it over to a single corporation, and taking \$20,000,000 out of the Treasury and giving it to that corporation if it needs it, and thereby save the farmers and the great San Joaquin Valley from destruction? If you are going to measure it as a mere matter of dollars and cents, then I appeal to the Senate to con-

sider the homes of those farmers which, while they may not be measured in millions, are all in God's world that they have.

Mr. MYERS. I should like to ask the Senator a question.

The PRESIDING OFFICER. Does the Senator from Idaho yield to the Senator from Montana?

Mr. BORAH. I yield.

Mr. MYERS. The Senator from Idaho refers to the destruction of the San Joaquin Valley. Does he claim that the passage of this bill would destroy the San Joaquin Valley?

Mr. BORAH. Mr. President, I claim that it would destroy the San Joaquin Valley as the San Joaquin Valley will be if it is permitted to use this water.

Mr. MYERS. But the Senator does not claim that it will destroy anything that is there now?

Mr. BORAH. Yes; I think it will destroy things that are there now.

Mr. MYERS. I do not see how the Senator can say that.

Mr. BORAH. I will tell the Senator why. The Senator lives in an arid region. I do not know whether or not he was present this afternoon when I made the statement—

Mr. MYERS. I regret to say that I was not.

Mr. BORAH. Then, at the expense of time and repeating it, I will say that some time ago a farmer from this immediate region came into my office. I said to him, "I want to know why you people are really opposed to this, if you are, or are you being excited by outside influence?" He said, "We are opposed to it." I asked, "Why? Have you not your water rights fastened?" He said, "Whenever a great and powerful influence or a powerful municipal corporation is located upon the headwaters of our water supply, and we must be at their mercy as to when that water is turned on, or on the question as to whether we are applying it to a beneficial use, how we shall have it, and to litigate with them when they refuse us what we think is right—when that happens there will be hundreds of men who will sacrifice their farms and leave the valley."

Mr. MYERS. Mr. President, I think that is simply characteristic of a great many people. They imagine, if they have any dealings with a corporation, municipal or otherwise, that they are going to be robbed and lose all that they have; but I do not think the courts of California or of the United States will uphold any such fear.

Mr. BORAH. Oh, yes; "the courts of the State of California or of the United States." That is a great consolation to a farmer. If he can go into litigation with a fellow farmer he will get along fairly well, but if he must go to San Francisco and get into litigation with that city, when all the city has to do is to have the city council meet and pass an appropriation for an attorney's fee, and to take him to the Federal court in San Francisco, and from the Federal court in San Francisco to the Federal court in Washington—one lawsuit will be enough for him in his lifetime.

Mr. MYERS. I suppose, Mr. President, if these farmers have any litigation at all—and I do not think they will ever have any, because a great deal of apprehension from imagination is unfounded—but if they have any, I suppose they will litigate collectively. Instead of there being one lone, poor individual against a mighty corporation, it would be one corporation against another, for this irrigation company is nothing but a corporation.

Mr. BORAH. Yes; but it all filters back onto the farmer, and he must pay it just the same in a sense as if he brought the suit individually. I am not in favor of putting those people at the mercy of San Francisco. If the Senator from Montana thinks that they ought not to be placed at the mercy of San Francisco, will he agree with me to strike out of this bill that clause which requires the consent of San Francisco for other municipalities and irrigation districts to enjoy the benefits of this grant?

Mr. MYERS. The clause which provides for municipalities other than San Francisco enjoying the benefit of it?

Mr. BORAH. Yes; which requires the consent of San Francisco.

Mr. MYERS. No, Mr. President, I will not agree to any amendment of the bill. I am for the bill as it is. My first reason for that is that the bill was framed as it is by the consent of the representatives of these farmers, and while it may be true that they have discharged their agents and attorneys and representatives, yet those agents and attorneys and representatives claimed that they were acting under express authority and under instructions in entering into an agreement in framing the bill just as it is. I do not believe in Congress vacillating and squirming around to suit people who change their minds with regard to bills which they desire passed through Congress.

Mr. BORAH. But the Senator knows that whatever the cause is those representatives did not represent the Water Users' Association.

Mr. MYERS. I think they represented them at the time, but the water users simply tried to back out and repudiate the work of their representatives.

Mr. BORAH. Well, this is the clause which I was wondering if the Senator would join me in striking out from the bill:

That there is hereby granted to the city and county of San Francisco, a municipal corporation in the State of California, all necessary rights of way along such locations and of such width, not to exceed 250 feet, as in the judgment of the Secretary of the Interior may be required for the purposes of this act, in, over, and through the public lands of the United States in the counties of Tuolumne, Stanislaus, San Joaquin, and Alameda, in the State of California, and in, over, and through the Yosemite National Park and the Stanislaus National Forest, or portions thereof, lying within the said counties, for the purpose of constructing, operating, and maintaining aqueducts, canals, ditches, pipes, pipe lines, flumes, tunnels, and conduits for conveying water for domestic purposes and uses to the city and county of San Francisco and such other municipalities and water districts as, with the consent of the city and county of San Francisco, or in accordance with the laws of the State of California in force at the time application is made, may hereafter participate in the beneficial use of the rights and privileges granted by this act.

If we were to strike out of this grant from the beginning to the end those clauses which, in my judgment, make San Francisco the autocrat of the situation and put into her hands the power to create a monopoly of an indispensable element of life in that arid region, water, and secondly, light; if you will eliminate from the bill its monopolistic features, I shall not have very much trouble in supporting it. I have no desire to deprive San Francisco of the water she really needs, but San Francisco does not need a monopoly any more than does any other municipal corporation.

Mr. MYERS. No, Mr. President; but I understand these other communities need an adequate supply of water just as much as does San Francisco, and that they have not now an adequate supply any more than has San Francisco.

Mr. BORAH. Well, if the bill provided that they should have it as San Francisco proposes to get it as a first party of the grant, it would be an entirely different proposition.

Mr. President, without taking the time of the Senate to read, I am going to ask permission to put into the Record some facts gathered from the public records here with reference to the supply of water from the American River, the run-off of the river, and so forth, for the purpose of showing the facts with reference to that particular stream alone. It do not want to take up the time of the Senate to read it.

The VICE PRESIDENT. Without objection, it will be inserted in the Record.

Mr. BORAH. Now, Mr. President, one feature more.

Mr. SMOOT. Mr. President, I would like the Senator, if he can state without going into the details of the information that he has just asked to have printed, the extent of the supply of the American River. It has not been discussed in this debate, and I believe it would be a very good thing for Senators to understand just what the extent of that supply is, if the Senator can give the information offhand.

Mr. BORAH. I can not give it offhand. It is an extensive, detailed statement of figures which it would be difficult for me to comprehend, much less recollect. But I have here a general statement by another party, which I have not read, because I, of course, felt that the figures themselves would prove whatever they prove. A party, however, who has gone over the figures makes this statement:

The fact is that there are several. The American River among others. Particularly note the reservoir site in the South Fork of the American, of which I send you a map. This site, with a 300 feet high dam (compared with 325 feet height proposed for Hetch Hetchy), will make a lake 12 miles long, with a capacity of about 350,000 acre-feet (114,000,000,000 gallons), which is about the same as the Hetch Hetchy, with a dam 25 feet higher. The watershed tributary is 665 square miles, compared to Hetch Hetchy's 452 square miles. Distance from San Francisco by conduit line about 50 miles less than Hetch Hetchy. Conduit very much less costly of construction.

Now, I will follow that general statement by the figures which I have been permitted to insert in the Record. This statement was not prepared by myself, but is supposed to be based on records.

The matter referred to is as follows:

INFORMATION RELATING TO AMERICAN RIVER, CAL.

NOTE.—Following the form of Senate resolution 191.

I.

The drainage area east of Fair Oaks (United States Geological Survey gauging station) on the American River 15 miles east of Sacramento is 1,910 square miles. (Authority, United States Geological Survey "Water-supply paper 298," p. 312.)

COMPARISON (A).

The drainage area east of La Grange on the Tuolumne River is 1,500 square miles. (Authority, "Water-supply paper 299," p. 267.)

II.

The run-off from the watershed of the American River east of Fair Oaks by seasons for the period of the records is as follows (authority, United States Geological Survey "Water-supply paper 298," pp. 312-314, from Nov. 4, 1904, to June 30, 1912, and the unpublished records of gaugings in the office of the United States Geological Survey at San Francisco, reduced by the computation of the writer to acre-feet, etc., from July 1, 1912, to Sept. 30, 1912):

Seasons.	Total.	Depth on drainage area.
Oct. 1 to Sept. 30:		
1904-5.....	1,950,000	
1905-6.....	4,762,000	46.75
1906-7.....	5,710,000	56.02
1907-8.....	1,450,000	14.20
1908-9.....	4,540,000	44.65
1909-10.....	3,540,000	34.78
1910-11.....	6,480,000	53.80
1911-12.....	1,243,000	12.15

¹ For 10.9 month.

CORRECTION.—Three ditches take water out of the tributaries of the American, none of the water taken out returning to the river. From a personal knowledge, I estimate their respective acre-feet of seasonal diversions, the variation from season to season being very small, as follows:

	Acre-feet.
Cedar Creek ditch, from north fork of North Fork, near Eml. grant Gap.....	15,000
North Fork ditch, near Auburn.....	20,000
Natoma Ditch, from South Fork, at Salmon Falls.....	25,000
Total mean season's diversions.....	60,000
Corrected run-off.....	

Seasons.	Total.	Depth on drainage area.
Oct. 1 to Sept. 30:		
1905-6.....	4,822,000	47.34
1906-7.....	5,760,000	56.60
1907-8.....	1,510,000	14.84
1908-9.....	4,600,000	45.23
1909-10.....	3,600,000	35.36
1910-11.....	6,540,000	54.38
1911-12.....	1,303,000	12.73

COMPARISON (B).

Seasons, October to September.	Tuolumne run-off depth.	American run-off depth.
	Inches.	Inches.
1905-6.....	44.09	47.34
1906-7.....	46.96	56.60
1907-8.....	13.43	14.84
1908-9.....	33.10	45.23
1909-10.....	25.98	35.36
1910-11.....	42.69	54.38
Mean.....	34.37	42.29

NOTE.—Mean seasonal depth of run-off from American watershed is indicated 20 to 25 per cent greater than from Tuolumne watershed. (Authority for Tuolumne figures, Water-Supply Paper 299, pp. 269-270.)

COMPARISON (C).

Seasons, October to September.	Tuolumne run-off (acre feet).	American run-off (acre feet).
1905-6.....	3,530,000	4,822,000
1906-7.....	3,760,000	5,760,000
1907-8.....	1,070,000	1,510,000
1908-9.....	2,650,000	4,600,000
1909-10.....	2,080,000	3,600,000
1910-11.....	3,410,000	6,540,000
Mean.....	2,750,000	4,472,000

NOTE.—Mean seasonal acre-feet of run-off from American watershed is indicated between 60 per cent and 65 per cent larger than from the Tuolumne watershed. (Authority for Tuolumne figures, Water-Supply Paper 299, pp. 269-270.)

III.

The total area of land irrigable or that can be irrigated from the American River and tributaries is approximately 260,000 acres.

As it happens, the larger part of the land north and west of the American River in Placer and Sacramento Counties is already irrigated, or can be irrigated, with water from the South Yuba and Bear Rivers. There is no other land on which to put the water of these rivers now diverted. The Consumnes River is assumed available to irrigate part of the land area north and west of it toward the American River. This is the reason that 260,000 acres is the utmost extent of probable irrigation from the American River. The area at this time irrigated is about 40,000 acres.

The land irrigated and which may be irrigated from the American River in seasons of average rainfall consumes an average of little over an acre-foot of water to the acre of land. In seasons of most deficient rainfall the consumption may average as much as 1½ acre-feet (21 inches depth) to the acre. The reasons for this are that there is always some rainfall to start with, the soil is heavy and holds water well without wasting it, and the crops for which the land is best adapted are not large water consumers.

The extreme seasonal quantity of water which can be foreseen as ever requireable for irrigation from the American River is 450,000 second-feet, and this is the total quantity of water from the American River which can be put to beneficial use in irrigation.

The writer is authority for the preceding. He knows of no better authority, having resided in the territory which is irrigable from this river for nearly 20 years, and during that period and during 15 years since has made most exhaustive investigations of the use of water for irrigation in it.

COMPARISON (D).

The total area dependent on the Tuolumne River for irrigation is estimated at 411,520 acres, compared with 260,000 acres estimated as the total area which may become dependent on the American River for irrigation. (Authority for the Tuolumne area is the Report of the Advisory Board of Army Engineers, p. 105.)

COMPARISON (E).

The mean seasonal number of acre-feet required per acre for irrigation of the Tuolumne lands is estimated 2½ acre-feet, compared with 1½ acre-feet estimated required per acre for irrigation from the American River. (Authority for Tuolumne figure is Report of the Advisory Board of Army Engineers, p. 105.)

COMPARISON (F).

The mean total seasonal number of acre-feet required for the irrigation of lands dependent on the Tuolumne River is estimated at 1,132,000 acre-feet, compared with 517,000 acre-feet (including 15 per cent allowance for wastage) estimated as required for the irrigation of lands dependent on the American River. (Authority for Tuolumne figure, Report of the Advisory Board of Army Engineers, p. 106.)

NOTE.—The mean seasonal acre-feet irrigation requirement from the American River is indicated 55 per cent less than the mean seasonal acre-feet irrigation requirement from the Tuolumne River.

IV.

The quantity of water that can be stored in feasible reservoir sites on the American River and its tributary streams is 921,000 acre-feet, estimated detail as follows:

	Acre-feet.
North Fork tributary, 10 sites, dams 40 feet to 130 feet high. (Authority: The writer's personal surveys.)	90,000
Middle Fork of Middle Fork tributary, French Meadows site, dam 150 feet high. (Authority: United States Geological Survey map, sheet No. 9 annexed, and computation by writer.)	60,000
3 additional reservoir sites upstream from French Meadows. (Authority: Hon. H. T. Power, water commissioner State of California.)	60,000
Rubicon Fork of Middle Fork tributary, 6 reservoir sites, with about 90 square miles of drainage area. Have no figures to which writer can refer, but believe total feasible capacity far in excess of.	60,000
South Fork tributary, Coloma-Lotus-Magnolia reservoir site, dam 300 feet high. (Authority: United States Geological Survey map, sheet No. 11 annexed, and computation by writer.)	350,000
Bay Cities Water Co. system. (Authority: Edwin Duryea, chief engineer of company. Report of Advisory Board of Engineers, p. 95.)	195,000
Greenwood Creek reservoir site, dam 200 feet high. (Authority: Progress report, February, 1901, City Engineer Grunsky, San Francisco water supply, municipal report, 1900-1901, appendix, p. 327.)	66,000
Reservoir sites of Silver Creek and other tributaries. Have no figures to which writer can refer, but believe total feasible capacity far in excess of.	40,000
Total	921,000

COMPARISON (G).

The total estimated feasible capacity of reservoir sites on the Tuolumne River and tributaries is 1,020,300 acre-feet, compared with 921,000 acre-feet estimated feasible capacity of reservoir sites on the tributaries of the American River. (Authority for Tuolumne figure: Report of Advisory Board of Engineers, p. 111.)

NOTE.—It is probable that precise surveys of the unsurveyed sites on tributaries of the American will show increased capacities over these estimates for them which will make the feasible total reservoir capacities of the two rivers about the same.

V.

The quantity of water which it would be deemed advisable should be stored seasonally for irrigation is estimated as not exceeding 160,000 acre-feet. The shortage of the run-off as it came in the season 1912-13 from the full quantity required for irrigation would have been 159,000 acre-feet in the months of July, August, and September. (Authority: Computation by writer employing United States Geological Survey run-off gaugings and assuming one-half the total irrigation use after July 1 each year.)

COMPARISON (H).

The quantity of water estimated necessary to be stored for irrigation requirements from the Tuolumne River is 370,000 acre-feet, compared with 160,000 acre-feet estimated necessary to be stored for irrigation requirements from the American River. (Authority for Tuolumne figure: Report of Advisory Board of Army Engineers, p. 110.)

NOTE.—The storage requirement for irrigation utilization on the American River is indicated as 57 per cent less than the storage requirement for irrigation utilization on the Tuolumne River.

VI.

The drainage area and run-off of such part of the total drainage area of the American River as may be available as a source of water supply

for incorporated cities and towns are, respectively: The drainage area, 1,500 square miles and the run-off for the seasons 1911-12 and 1912-13 as follows:

Seasons, October to September.	North Fork near Colfax.	Middle Fork near Auburn.	South Fork near Placerville.	Total, three forks.
1911-12	Acre-feet. 253,000	Acre-feet. 575,000	Acre-feet. 469,000	Acre-feet. 1,297,000
1912-13	Acre-feet. 309,000	Acre-feet. 829,000	Acre-feet. 515,000	Acre-feet. 1,653,000

(Authority: "Water-Supply Paper 298," pp. 302, 316, and 338 for period Oct. 1, 1911, to June 30, 1912, and record gaugings in office United States Geological Survey at San Francisco for period July 1, 1912, to Sept. 30, 1913. Computation from gauge records by writer. Correction by adding 15,000 acre-feet diversion by Cedar Creek ditch to North Fork record figures. Computation by writer of watershed areas from United States Geological Survey topographic atlas sheet.)

NOTE.—The only records are the two seasons above. They are, however, the lowest two successive run-off seasons of which there are any conclusive records made in California. The comparison is with Tuolumne records for these two years (which it is assumed will be furnished in response to Senate resolution 191 by the Secretary of the Interior) of the run-off of—

	Square miles.
Hetch Hetchy drainage area	452
Eleanor Creek drainage area	81
Cherry Creek drainage area	130
Total drainage area	663

It will be noted that the total American River drainage area available for water supply to incorporated cities is over two times as great as the total Tuolumne River drainage area available for water supply to incorporated cities.

The capacity of feasible reservoir sites in the American River watershed available for the water supply of incorporated cities after providing 160,000 acre-feet capacity for irrigation necessities is not less than 761,000 acre-feet.

The mean quantity of water per day which would then be available for the supply of incorporated cities and towns is estimated by the writer at not less than 800,000,000 gallons daily. This is equal to the combined supplies of the Croton and Oskohan Reservoirs to New York City.

The check of this estimate is made as follows: First, Five hundred and seventeen thousand acre-feet year requirement for irrigation equals 168,500,000,000 gallons; 160,000 acre-feet of storage capacity for irrigation equals 52,000,000,000 gallons; 800,000,000 gallons daily water supply to incorporated cities and towns equals 292,000,000,000 gallons in one year; 761,000 acre-feet of available storage capacity for incorporated cities and towns equals 248,000,000,000 gallons.

Second, The run-off of the American River April 1 to June 30, 1911, was 2,750,000 acre-feet, equal to 896,000,000,000 gallons, from which it is assumed that the total estimated irrigation and cities' reservoir capacity, 300,000,000,000 gallons, would be in storage July 1, 1912.

	Gallons.
Irrigation, July-February	62,193,000,000
Cities, July-February	65,352,000,000
Wasted (July, 1911)	5,198,000,000
Run-off July, 1911-February, 1912, 410,230 acre-feet	132,743,000,000
Irrigation reservoirs full July 1	52,000,000,000
Draft August and September, 1911	27,107,000,000
Irrigation storage carried over	24,893,000,000
Cities' reservoirs full July 1	248,000,000,000
Draft July-February, 1911	120,314,000,000
Cities' storage carried over	118,686,000,000
Irrigation, March-June	79,200,000,000
Cities, March-June	97,334,000,000
Refill irrigation reservoirs	27,107,000,000
Refill cities' reservoirs	120,314,000,000
Wasted water, March-June	1,815,000,000

Run-off March-June, 1912, 1,027,000 acre-feet	334,770,000,000
Then—	
Irrigation, July-December, 1912	32,576,000,000
Cities, July-December, 1912	32,513,000,000
Run-off, July-December, 1912, 202,660 acre-feet	65,089,000,000
Irrigation reservoirs full July 1	52,000,000,000
Draft August, September, and October	51,724,000,000
Irrigation storage carried over	276,000,000
Cities' reservoirs full July 1, 1913	248,000,000,000
Draft, July-December, 1912	113,487,000,000
Cities' storage carried over	134,513,000,000
Irrigation, January-June	84,200,000,000
Cities, January-June	146,000,000,000
Refill irrigation reservoirs	51,724,000,000
Refill cities' reservoirs	113,487,000,000
Wasted water	68,976,000,000

Run-off, January-June, 1913, 1,424,500 acre-feet	464,387,000,000
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COMPARISON (1).

The preceding demonstrates the sufficiency of the American River tributaries' watersheds, after provision for all possible beneficial irrigation use through the period July 1, 1911-June 30, 1913, the two consecutive years of lowest water, to have provided 800,000,000 gallons daily to cities and have full reservoirs at the end of each year of the period. The comparison would be with the Hetch Hetchy-Lake Eleanor-Cherry Creek watershed of the Tuolumne River to have supplied the cities with half the water, 400,000,000 gallons daily, during the same period.

Separate statement of average annual flows.

	Acre-feet.
Average annual flow North Fork American-----	266,000
Average annual flow Middle Fork American-----	701,000
Average annual flow South Fork American-----	402,000

Total average annual flow three tributaries----- 1,459,000

NOTE: The statement is for the two lowest years 1911-12 and 1912-13, the only years for which there are separate records.

Between 90 per cent and 95 per cent of the run-off of the American River gauged at Fair Oaks comes from the three tributaries' watersheds. Assuming 92 per cent, the total average annual flow for the three tributaries during eight seasons, 1905-6 to 1912-13, was about 3,410,000 acre-feet, two and one-third times the average of the last two seasons.

Separate statement of the amount of hydroelectric power.

	Electric horsepower.
Hydroelectric power feasible in North Fork American River-----	60,000
Hydroelectric power feasible in Middle Fork American River-----	100,000
Hydroelectric power feasible in South Fork American River-----	80,000

Total feasible hydroelectric power----- 240,000

NOTE: The feasible power development varies inversely with the utilization of the water in irrigation and for cities. It is dependent on the seasonal discharge of the reservoir-stored water. If the latter must be kept stored to insure the continuity of the supply for irrigation and cities, it correspondingly limits the development of the hydroelectric power. With the American River this matter is of no importance, since the date when a substantial part of 800,000,000 gallons daily will be required for the cities is so remote that practically the full power development estimated can be maintained for the next 100 years, which is longer than we should worry. With the Tuolumne River the limitation of feasible power development is nearer at hand, simply because there is not more than half the quantity of water available for the cities.

The net hydroelectric power developable from the cities' water between the point (or points) of diversion of the water from the rivers and the cities is about 120 horsepower for each 1,000,000 gallons daily. This is not included in the 240,000 horsepower mentioned above, as its consumption in pumping the water will make possible the lessening of the cost of installation of the conduit by several million dollars.

COMPARISON (2).

The feasible power development on the American tributaries is estimated at 240,000 horsepower, compared with 115,000 horsepower estimated feasible power development on the Tuolumne tributaries. (Authority for Hetch Hetchy figure: "Report of Advisory Board of Army Engineers," p. 131.)

NOTE: The feasible hydroelectric power development on the American River tributaries is indicated as double the feasible hydroelectric power development on the Tuolumne River.

MR. BORAH. Mr. President, there are a large number of people in this country who are opposed to this grant purely upon what might be called sentimental grounds. I hope I am not wholly without appreciation for this noble sentiment which pleads so earnestly for the preservation of this park on account of its great scenic beauty. My own State is rich, marvelously rich, with these priceless gifts from nature's prodigal hand. But while wanton and prodigal in the particular scene which she seeks to embellish and adorn, there are not many of them in our country as a whole, and I do not wonder that they should be cherished with religious enthusiasm and a most unselfish zeal. I am frank to say, however, that this is not a controlling factor with me in this controversy. I realize that necessity may demand in some instances their destruction, few as they are, and that when the demand comes as a necessity we have nothing to do but to yield. But this ought always to be true—that they should be preserved until there is no alternative but to destroy them or deny some real want of humanity. In fact, sir, these wild, weird exhibitions of nature's beauty, nature's caprice, and nature's power are themselves factors of human development and elements in human wants in the higher and nobler sense, and only health and lives should call for their destruction. A few thousand or a few million are as nothing to their value when measured by the wants and needs of the people in the sweep of the years. These people, therefore, who are making the fight upon this ground are entitled to be heard and have their claim seriously considered.

I am going to insert in the RECORD, therefore, some of their arguments, because they are entitled to be heard in their own words. I now want to read a letter from a gentleman connected with the Daily Princetonian, the official daily of Princeton University. The letter is addressed to me and is as follows:

THE DAILY PRINCETONIAN,
PRINCETON UNIVERSITY,
Princeton, N. J., November 24, 1913.

HON. WILLIAM E. BORAH, Washington, D. C.

DEAR SIR: It is my belief that certain facts concerning the proposed destruction of the Hetch Hetchy Valley are unknown to people who

have never visited that part of the country, and a perusal of the CONGRESSIONAL RECORD has led me to believe, also, that many of your colleagues are in the same position.

No doubt that is true. Senators have to stay here and work; they can not visit these places.

The Yosemite Valley is crowded with tourists and campers, attracted by what is one of the most glorious scenic and pleasure spots in the world. The Hetch Hetchy Valley, 30 miles distant, is nearly identical with the Yosemite Valley—a level, grassy floor, inclosed by grand, precipitous mountains, a paradise belonging to no one section of the country, deserving of a better fate than to be destroyed for any local object, particularly when it is admitted that San Francisco is able, if it chooses, to obtain an adequate water supply from other sources. The only reason that the number of people at present able to visit the Hetch Hetchy is limited is simply because there is no road leading to it. As soon as the yearly increasing number of visitors to the Yosemite forces the State to build a road to the glorious Hetch Hetchy it will, in turn, become of like importance to the country. In the whole world there are no other valleys like these two.

When Italy and Switzerland subsist on their climate and scenic attractions, is it not folly, even from the vaunted "commercial standpoint," to blot out what is bound to become one of the chief assets of short-sighted California?

I remain, sir,

Yours, very truly,

HAMILTON FISH ARMSTRONG.

The remainder, Mr. President, I shall not read, but ask leave to print in the RECORD without reading.

THE VICE PRESIDENT. Is there objection? The Chair hears none, and it is so ordered.

The matter referred to is as follows:

SIERRA CLUB,

Berkeley, Cal., November 25, 1913.

THE HON. WILLIAM E. BORAH,

Senate Chamber, Washington, D. C.

DEAR SIR: I hope it will be possible for you to throw your influence against the Raker bill, which proposes the invasion of Yosemite National Park and the destruction of one of the two principal camping sites in the same. This bill should be defeated for the following reasons: First, there is not enough water in the Tuolumne watershed for both the irrigationists and the city. This has been abundantly demonstrated by competent engineers. Second, it is not the part of sane conservation to take water from a place where it is indispensable for the further development of arid country, when nearer to San Francisco excellent water is running to waste that can never be put to beneficial use. As Mr. Clement H. Miller and others have shown, the McCloud and Eel River sources are actually cheaper than the Tuolumne. Third, experts like Mr. Whipple advised at a hearing before Secretary Fisher that within 50 years the city will have to filter Hetch Hetchy water if the Tuolumne watershed continues to be used for park purposes. We shall have to face the possibility that after a number of years the city will apply to Congress for the exclusion of campers from 500 square miles of the Yosemite National Park in order to protect the water supply from pollution. Portland applied to Congress after nine years for the exclusion of all persons from the Bull Run reserve. Fourth, the invasion of a national park for a purely commercial reason will constitute a serious precedent with reference to other parks, and may lead to a serious impairment of our entire national-park system. Fifth, San Francisco derives no benefit from the use of Hetch Hetchy which is not doubly offset, first, by the loss of scenic assets in Hetch Hetchy Valley and the Tuolumne Canyon; second, by the annual loss of \$20,000,000 from lands which can never profitably be irrigated in the San Joaquin Valley. The water from the Tuolumne is the only water available for this purpose. For these and other reasons I respectfully urge you to make your influence count against this pernicious bill.

Sincerely, yours,

WILLIAM F. BADE.

NEW YORK, November 29, 1913.

HON. WILLIAM E. BORAH,

United States Senate, Washington, D. C.

DEAR SIR: Permit me a word of protest against the Hetch Hetchy Reservoir bill.

When this bill passed the House of Representatives it seemed to me beyond understanding how a majority could have been led into voting in favor of a measure which, if enacted, will seriously impair the beauties of the great Hetch Hetchy Valley and will prevent the use of this valley, the grand canyon, and the Tuolumne Meadows as a national park by visiting American citizens.

Then it occurred to me that while many Americans have been impressed with a knowledge of the Yosemite Valley, only a few have had opportunity to learn of the Hetch Hetchy Valley, the grand canyon of the Tuolumne, and of the wondrous Tuolumne Meadows, which contain the headwaters flowing to the Hetch Hetchy Valley, and which are surrounded by the high and snow-capped mountains forming in part the sky line of the Yosemite Valley.

My strong impressions of this region and strong protest against its threatened spoliation arises largely from the trips which I have personally made with my son. With him I have traveled, mule back, over a thousand miles and more of mountain trails throughout the high Sierras, crossing and camping upon the several forks of the Merced, the San Joaquin, and the Kings Rivers, and along the Tuolumne River, and over the expanse of the Tuolumne Meadows, from which we have climbed to snow-capped peaks overlooking the Yosemite Valley.

I gave my son full opportunity to see, with me, his own country, including Alaska, before I took him to Europe. Among other places for two successive seasons I traveled with him over the mountains and trails in California.

It thus happened that we became acquainted with the grandeur and beauties of the wonderful Yosemite National Park, which includes as important features the Hetch Hetchy Valley, the Tuolumne Grand Canyon, and the camping grounds of the Tuolumne Meadows. It also thus happened that our thoughts contemplated the future day when Americans in large and increasing numbers would become better acquainted with this great playground of the Nation, and when the tide of American travel would turn westward across the continent to enjoy the wonders of our own country in preference to trips exclusively eastward across the Atlantic to foreign shores. It was wise forethought for the Nation to establish the Yellowstone, the Glacier, and the Yosemite

National Parks. Now it is proposed to close to the American public all that wondrous portion of the Yosemite Park through which flow the waters of the Tuolumne.

No one can visit this wonderful region without being aroused to a feeling of opposition and resentment against the present threatened spoliation. I wish it were possible that every Senator, before voting on the proposition, could have opportunity to view the grandeur and beauty of the scenery from which it is now purposed to shut out the American public. The defeat of the measure would then be assured.

Each Senator no doubt will receive descriptive sketches of the Hetch Hetchy Valley, of the grand canyon of the Tuolumne, and of the Tuolumne Meadows. It is not my purpose to enter into these detailed descriptions.

As one American citizen who has had opportunity to acquire knowledge at first hand, and to be inspired by the wonderful scenic beauties whose destruction for national-park uses is now threatened, I wish only to enter a strong protest against this wanton scheme and to urge upon you to vote against the bill.

I have the honor to remain,

Yours, with respect,

BEN. L. FAIRCHILD.

MR. JOHN MUIR'S REPLY TO A LETTER RECEIVED FROM HON. JAMES R. GARFIELD IN RELATION TO THE DESTRUCTIVE HETCH HETCHY SCHEME.

HON. JAMES R. GARFIELD,
Secretary of Interior, Washington, D. C.

DEAR SIR: I have just received your letter on my return from southern California, where I have been calling attention to the Yosemite National Park and the persistent efforts now being made in Congress to obtain permission to destroy the Hetch Hetchy Valley, one of its most wonderful and useful features.

You have had ample opportunity to know where I stand on this whole Hetch Hetchy question from my published writings.

In general, my views are in accord with those of Hon. E. A. Hitchcock, your immediate predecessor, who in 1903 denied this same application for the invasion of the Yosemite National Park, saying:

"It is proposed to convert Lake Eleanor and Hetch Hetchy Valley, respectively, into reservoirs for the storage of a water supply for the city. Both are admittedly scenic features of the Yosemite National Park. * * * Hetch Hetchy Valley is widely known for its wonderful natural conditions and marvelous scenic interest. * * *

"The valley proper is about 3½ miles long and of a width varying from one-quarter to three-quarters of a mile. The rugged granite walls, crowned with domes, towers, spires, and battlements, seem to rise almost perpendicular upon all sides to a height of 2,500 feet above this beautiful emerald meadow. * * *

"If natural scenic attractions of the grade and character of Lake Eleanor and Hetch Hetchy Valley are not of the class which the law commands the Secretary to preserve and retain in their natural condition, it would seem difficult to find any in the park that are, unless it be the Yosemite Valley itself. In the absence of the clearest expression to the contrary, it is inconceivable that it was intended by the act of February 15, 1901, to confer any authority to be exercised for the subversion of those natural conditions which are essential to the very purposes for which the park was established. * * *

"Presumably the Yosemite National Park was created such by law because of the natural objects of varying degrees of scenic importance located within its boundaries, inclusive alike of its beautiful small lakes, like Eleanor, and its majestic wonders, like Hetch Hetchy and Yosemite Valley. It is the aggregation of such natural scenic features that makes the Yosemite Park a wonderland which the Congress of the United States sought by law to preserve for all coming time as nearly as practicable in the condition fashioned by the hand of the Creator—a worthy object of national pride and a source of healthful pleasure and rest for the thousands of people who may annually sojourn there during the heated months. * * *

"Having in view the ends for which the park was established and the law which clearly defines my duty in the premises, I am constrained to deny the application. * * *

I also agree with Hon. John W. Noble, another former Secretary of the Interior, who, in a letter to Hon. FRANK W. MUNDRELL, M. C., chairman of Committee on the Public Lands, said:

"Upon the policy of surrendering the Hetch Hetchy Valley and its surroundings to the use of the city of San Francisco for water supply, allow me to express to you my conviction that such appropriation should not be made. * * *

"Permit me also to recall that during the Harrison administration these reservations, in connection with Yosemite Park, were discussed and advanced, with the system then inaugurated of protecting our natural and wonderful scenery and our forests and other resources. It took labor and moral courage to withstand the fierce opposition of local interests to do this. * * *

"Among the most important reservations secured were these now asked for a city to be abandoned. It ought not to be done. The city has abundant water supply other than the reservoir to be constructed here, and it is not necessary to give this up. * * *

I am also in sympathy with the following statement by Mr. J. Horace McFarland, president of the American Civic Association, in his address delivered May 14, 1908, before the White House conference on the conservation of natural resources:

"The national parks—all too few in number and extent—ought to be held absolutely inviolate, as intended by Congress. Intrusions for questionable water-supply needs, against the unselfish protests of those whose love of country can not be impugned, should not be permitted. * * *

Also with the President, who, in speaking of the Yellowstone Park in his annual message to Congress, said:

"This, like the Yosemite, is a great wonderland and should be kept as a national playground. In both all wild things should be protected and the scenery kept wholly unmarred. * * *

Also in general with the views of the American Alpine Club; Sierra Club, of California; Appalachian Mountain Club, of Boston; Mazamas, of Portland; Mountaineers, of Seattle; American Civic Association; American Scenic and Historic Preservation Society. * * *

The more I study your decision upon the application of the city of San Francisco for the Hetch Hetchy Valley and Lake Eleanor sites, a marked copy of which you inclosed for me, the greater seems the mistake you have made in allowing the city to destroy any part of the park on any pretext whatever. Nor can I see justice from any point of view in giving away, as you have done, to less than half a million citizens that which belongs to and is needed by more than eighty millions. * * *

You say that Mr. Pinchot has given this matter the most careful consideration, and is in full accord with your action in granting the right to the city. Unfortunately, Mr. Pinchot never saw the Hetch

Hetchy Valley or the great Tuolumne Canyon above it, and therefore his opinion should have very little weight against that of hundreds of mountain lovers who have long enjoyed and appreciated its wonders. * * *

Anyhow, Mr. Secretary, though devoutly differing with you on this important matter, I am still, with sincere respect,

Faithfully, yours,

JOHN MUIR.

Mr. BORAH. Mr. President, I am going to take the liberty of reading to the Senate a description of one of the great scenic displays of this country, about which very few people know anything, and which, too, is going the way of all the others, to destruction. I want to put in the RECORD as a permanent piece of literature a description of this piece of great natural scenery from the gifted pen of the veteran editor of the West, Mr. C. C. Goodwin. This is a description of what are known as the Shoshone Falls, in the State of Idaho:

They are real rivals of Niagara. Never anywhere else was there such a scene; never anywhere else was so beautiful a picture hung in so rude a frame; never anywhere else on a background so forbidding and weird were so many glories clustered. * * *

Around and beyond there is nothing but the desert—sere, silent, lifeless, as though Desolation had builded there everlasting thrones to Sorrow and Despair. * * *

Away back in remote ages, over the withered breast of the desert, a river of fire 100 miles wide and 400 miles long was turned. As the fiery mass cooled its red waves became transixed and turned black, giving to the double desert an indescribably blasted and forbidding face. * * *

But while this river of fire was in flow a river of water was fighting its way across it, or has since made the war and forged out for itself a channel through the mass. This channel looks like the grave of a volcano that has been robbed of its dead. * * *

But right between its crumbling and repellent walls a transfiguration appears. And such a picture! A river as lordly as the Hudson or the Ohio, springing from the distant snow-capped Teton, with waters transparent as glass, but green as emerald, with majestic flow and ever-increasing volume, sweeps on until it reaches this point, where the august display begins. * * *

Suddenly, in different places in the river bed, jagged, rocky reefs are upraised, dividing the current into four rivers, and these, in a mighty plunge of 80 feet downward, dash on their way. Of course the waters are churned into foam and roll over the precipice white as are the garments of the morning when no cloud obscures the sun. The loveliest of these falls is called "The Bridal Veil," because it is made of the lace which is woven with a warp of falling waters and a woof of sunlight. Above this and near the right bank is a long trail of foam, and this is called the "Bridal Train." The other channels are not so fair as the one called "The Bridal Veil," but they are more fierce and wild, and carry in their furious sweep more power. * * *

One of the reefs which divides the river in mid-channel runs up to a peak, and on this a family of eagles have through the years—maybe through the centuries—made their home and reared their young, on the very verge of the abyss and amid the full echoes of the resounding boom of the falls. Surely the eagle is a fitting symbol of perfect fearlessness and of that exultation which comes with battle clamors. * * *

But those first falls are but a beginning. The greater splendor succeeds. With swifter flow the startled waters dash on, and within a few feet take their second plunge in a solid crescent over a sheer precipice, 210 feet, to the abyss below. On the brink there is a rolling crest of white, dotted here and there, in sharp contrast, with shining eddies of green, as might a necklace of emerald shimmer on a throat of snow, and then the leap and fall. * * *

Here more than foam is made. Here the waters are shivered into fleecy spray, whiter and finer than any miracle that ever fell from India loom, while from the depths below an everlasting vapor rises—the incense of the waters to the water's God. Finally, through the long, unclouded days, the sun sends down his beams, and to give the startling scene its crowning splendor wreathes the terror and the glory in a rainbow halo. On either sullen bank the extremities of its are anchored, and there in its many-colored robes of light it stands outstretched above the abyss like wreathes of flowers above a sepulcher. Up through the glory and the terror an everlasting roar ascends, deep toned as is the voice of fate, a diapason like that the rolling ocean chants when his eager surges come rushing in to greet and fiercely woo an irresponsive promontory. * * *

But to feel all the awe and to mark all the splendor and power that comes of the mighty display one must climb down the steep descent to the river's brink below, and, pressing up as nearly as possible to the falls, contemplate the tremendous picture. There something of the energy that creates that endless panorama is comprehended; all the deep throbbings of the mighty river's pulses are felt; all the magnificence is seen. * * *

In the reverberations that come of the war of waters one hears something like God's voice, something like the splendor of God is before his eyes, something akin to God's power is manifesting itself before him; and his soul shrinks within itself, conscious as never before of its own littleness and helplessness in the presence of the workings of nature's immeasurable forces. * * *

Not quite so massive is the picture as is Niagara, but it has more lights and shades and loveliness, as though a hand more divinely skilled had mixed the tints and with more delicate art had transixed them upon that picture suspended there in its rugged and somber frame. * * *

As one watches it is not difficult to fancy that away back in the immemorial and unrecorded past the angel of love bewailed the fact that mortals were to be given existence in a spot so forbidding, a spot that apparently was never to be warmed with God's smile, which was never to make a sign through which God's mercy was to be discerned; that then Omnipotence was touched; that with His hand He smote the hills and started the great river in its flow; that with His finger He traced out the channel across the corpse of that other river that had been fire, mingled the sunbeams with the raging waters, and made it possible in that fire-blasted frame of scoria to swing a picture which should be, first to the red man and later to the pale races, a certain sign of the existence, the power, and the unapproachable splendor of the Great First Cause. * * *

And as the red man through the centuries watched the spectacle, comprehending nothing except that an infinite voice was smiting his ears, and insufferable glories were blazing before his eyes, so through the centuries to come the pale races will stand upon the shuddering shore and watch, experiencing a mighty impulse to put off the sandals from their feet, under an overmastering consciousness that the spot on which they are standing is holy ground. * * *

There is nothing elsewhere like it; nothing half so weird, so wild, so beautiful, so clothed in majesty, so draped with terror; nothing else that awakens impressions at once so startling, so winsome, so profound. While journeying through the desert to come suddenly upon it, the spectacle gives one something of the emotions that would be experienced to behold a resurrection from the dead. In the midst of what seems like a dead world suddenly there springs into irrepressible life something so marvelous, so grand, so caparisoned with loveliness and irresistible might that the head is bowed, the strained heart throbs tumultuously, and the awed soul sinks to its knees.

It is no wonder that those who see those vast displays of nature, so weird and so wild and so majestic, such exhibitions of nature's caprice and of nature's power, and appreciate them as this veteran editor did, are fighting earnestly and unselfishly and zealously for the preservation of one of the great beauty spots of the world.

The marvelous scene which this editor has depicted has passed away. That river, too, has been dedicated to commercial uses. The great Shoshone Falls are practically no more. In time they will be but the scene of commercial strife. One of the scenes which would have invited, in time to come, millions from all parts of the earth has been wiped out by commercialism. We stand here to-night contemplating the question whether we will dismember a spot set apart only a few years ago for the people of the United States, for all time to come, for resort recreation. We ought to pause and consider well our act. What we undo in the way of defacing and marring these marvelous scenes nature herself in all her majesty and strength can not restore.

Mr. LANE. Mr. President, I am sure it will be difficult to make an impression on this audience after the very beautiful closing speech of the Senator from Idaho. But to me, though I have never seen the Shoshone Falls, a rosy-cheeked baby, healthy and happy, appeals more strongly as a good and great creation than does a cliff with water pouring down over it.

If it is necessary for the health of the people and the lives of the little children that they have a greater supply of water than that which they now have in San Francisco, or a purer supply of water, and in the balance on the other side of the scale lies at stake merely the beauty and the grandeur of the Hetch Hetchy Valley, I would give the preference to the people of San Francisco and wipe out Hetch Hetchy just as quickly as I could do so.

I do not think there is any difference of opinion among us here in that respect. With me it is merely a question of whether or not San Francisco is in need of this water and whether that is the only source of supply.

If there are other sources from which San Francisco can obtain as pure a supply of water at no greater cost or at no excessive cost, then San Francisco should be asked to do so.

That is the problem I have been revolving in my mind here for a number of days. They are the points I would like to have settled in order that I may vote intelligently upon this bill.

If it be true that by taking the waters from the Tuolumne River and impounding them behind a dam in the Hetch Hetchy Valley and conveying 400,000,000 gallons a day in a pipe line to San Francisco the people occupying the San Joaquin Valley will be forever deprived of the use of their lands, while at the same time San Francisco can obtain an equal amount of pure water at no greater cost from the McCloud River or other sources, then it seems to me she should be forced to go to the McCloud River, or to the Eel River, or to Putah Creek, or to any other source from which she may obtain the necessary amount of water.

In California a climatic condition exists which is different from that which obtains in this eastern country. In California every drop of water is almost as valuable as a grain of gold. They do not have one drop to waste. San Francisco is entitled to every last ultimate drop that she needs. She is not entitled to one more drop than she needs.

There is something about this proposition which I can not understand. There is an appropriation made here in this bill for a city of 500,000 inhabitants, we will say—I believe that is a full and free estimate. The population of San Francisco is, I think a little less than that—in which she is granted a water supply of 400,000,000 gallons a day, which means 800 gallons each and every day for every man, woman, and child in that city, for the baby born yesterday and for the old man who is going to die to-morrow. It is enough water to drown the whole outfit twice a day every day in the year. [Laughter.] They can not get away with that amount of water. It is too much water. There must be something in this proposition besides water, although there is an excess of that. [Laughter.]

Quite a number of years ago I was camping up in the mountains with a party doing some work upon a water course; among other things, building a bridge. I had a gang working for me and we were living on canned food, as you have to

in the mountains when far from a source of supply of fresh vegetables. One day the foreman's wife drove in about 1 o'clock with a little bit of a boy. He was about 2 years old, I guess—a smart little fellow, precocious, rosy-cheeked, and hungry. Almost everything had been eaten up, but the cook stirred around and got together what little he could, and among other things he had left a few tablespoonfuls of stewed canned corn. The little fellow was very fond of corn and he asked for it. His mother gave it to him and he ate it, and then he wanted more corn. She said, "There is no more corn," and the cook said, "There is no more corn." He pointed to the stewpan in which it had been cooked, and the cook scraped it out. Those of you who have ever cooked canned corn know that most of the pepper settles to the bottom of the stewpan in which it is cooked. The residue was scraped into his plate and the little fellow got his spoon in it and put it in his mouth. He took a swallow of it and suddenly turned to his mother with great indignation and said, "There is too damned much pepper in this corn." [Laughter.]

It strikes me that there is a similar excess of water in this appropriation for San Francisco. [Laughter.] It evidently is not simply a proposition of securing water for San Francisco, for they can not use that much of it if they get it. It must be something else. It is probably a power proposition.

There are other things about it which are curious. There is a grant here to the city of San Francisco, with a sort of limited permission to the other cities about the bay to procure some of this water from San Francisco, after San Francisco receives from Congress the right to pass its pipe lines over the lands of the Government, if they do so. But if you will read it carefully you will notice there is no clause there in the nature of a common user, giving either Berkeley or Oakland or Alameda or San Jose the right to go to San Francisco and say, "We will take a little of this excess water which you are procuring, and pay our proportion of the cost of bringing it here, for the construction of the dam, the pipe lines, and so forth." There is nothing of that sort. The entire bill is silent upon that point.

I have seen a few franchises drawn. If I were a resident of Oakland, you could not sell me that franchise for a nickel. [Laughter.]

That strikes me as peculiar. I like San Francisco. We people who live up north of San Francisco are friends of San Francisco. We always have been. My father went into San Francisco in 1848, and worked during the winter of 1848 and 1849 in the mines on the American and Feather Rivers. My mother's father went to San Francisco in 1849; my people have lived all their lives on the Pacific coast. We are fond of them. They are a good lot and good neighbors. There has been no jealousy between us. Nevertheless, they are at this time clamoring for a whole lot of water. [Laughter.] I do not know what they are going to do with it.

You can take that amount of water, with the fall which attends it—San Francisco being at sea level and the Hetch Hetchy Valley 3,500 feet up in the air above it—and you can sluice the entire city of San Francisco into the Pacific Ocean every four weeks. [Laughter.]

Mr. MYERS. Mr. President, may I interrupt the Senator?

The VICE PRESIDENT. Does the Senator from Oregon yield to the Senator from Montana?

Mr. LANE. No; let me go on, please. I want to ask the Senator from Montana some questions after a while, and I think I will keep him busy when I do.

Mr. MYERS. Ask them now.

Mr. LANE. If there is any question the Senator wishes to ask about any statement I am making, I would like to hear it now. Yes; the Senator may interrupt me.

Mr. MYERS. I just wanted to say that the Senator seems to be under the impression that drinking is the only use to which water can be put. The people of San Francisco need water for bathing, for fighting fires, for laundry purposes, for cooking, for street cleaning, and for the great number of purposes for which water is needed in all large cities. The Senator should not be under the impression that they are to drink all of this water or to be drowned in it.

Mr. LANE. I am glad the Senator called my attention to that matter, for I have been looking it up. I have taken into consideration the water supply of a city for all municipal uses. Those uses consist of the water they drink, the water they bathe in, the water they cook with, the water for sluicing the sewers, for fighting fires, for washing streets, and for manufacturing purposes.

San Francisco, with a population of 500,000 people, has now a supply of water of 40,000,000 gallons a day, according to your report. This is your report, I think. No; this is the report of Mr. RAKER, in the House. It uses 40,000,000 gallons a day

at the present time. That is 80 gallons per capita—80 gallons every day for every man, woman, and child, for all municipal purposes. That is more water than the average city uses for similar purposes. It may astonish you to know that, and yet it is true. It is more water than they use in New York. It is more water than they use in St. Louis. It is more water than they use in a number of cities, if waste is excluded.

I had occasion at one time to check up this question. We were putting in a plant of our own in the city of Portland. We were having a great deal of waste. By the way, please bring me some water to drink. [Laughter.] We had to go out into the mountains and procure a supply of water. We were putting into the city 23,000,000 gallons of water every day by a gravity system. Along would come a spell of hot weather in the summer, and every man jack in town would turn on the faucet and let it run until it got cold, so that he could get a cold drink of water. Down would go our pressure, and that would exhaust the supply, out of our reservoirs. Then, in the wintertime there would come a cold spell of weather, and they would turn on the faucets. You know how that is done. They would be too lazy to go outdoors in the cold and turn off the house supply, and down it would go again. Our supply was 23,000,000 gallons of water a day, which was 100 gallons for every man, woman, and child in the city of Portland. Then there would come a spell of weather like we have here now, not quite so warm, but ordinary weather. There is hardly ever much cold weather and hardly ever a great deal of hot weather there.

Then, I found to my astonishment after checking day after day, week after week, that the actual ordinary consumption of the city was but 7,000,000 gallons a day, or about 28 to 30 gallons per capita. You will not believe that. No man will believe it. You will think I do not know what I am talking about, but I will just read to you another authority on this subject.

Here is a report that was put out in New York City. It is entitled "Waste of water in New York and its reduction by meters and inspection," a report to the Merchants' Association of New York. It was an inspection that was authorized by an act of their State legislature, and this report was sent around all over the country. I had seen it before. Here are some figures which I will present to you. It was published in New York June 18, 1906, signed by the committee on water supply, the Merchants' Association of New York, by Henry R. Towne, chairman. It is a work that is considered reliable by all engineers in water departments all over the United States. It is quite interesting.

Of course, different cities vary according to their population and the business enterprises they are engaged in. Manufacturing cities use more water than do those that do not manufacture. In a dry climate they naturally use more than in a climate that is more damp, as is the case in the city where I live. Yet the figures run pretty close together, and I want to call your attention to some of the cities in which there are comparatively few meters. The bulk of water, perhaps nearly half of the water, which is piped into a city is wasted. There is only about 60 per cent of water that is put to use. The rest of it is wasted by leaky pipes and neglect.

I remember one instance where we suspected a citizen of wasting water on account of leaky pipes, and we sent an inspector to see him and give him the proper warning to fix up his pipes. He promptly ordered our inspector to get off his premises. We had a flat rate, under which he was paying about \$1.50 a month for water. We put a meter on his service pipe, and the next month his bill amounted to \$113. He repaired the leaks in his pipes and his bill went right down again. He was wasting \$111.50 worth of water every month, and had been doing so for months before we discovered it.

We had trouble with a prominent business man who owned a large brick building. His bill on metering was \$60 a month, jumping up suddenly from about \$5 or \$6 to \$60. He got a plumber to look over his pipes and discovered that a rat had eaten a hole in a lead service pipe.

A good part of the water which comes into a city goes directly out in the sewers, without ever being used. If San Francisco gets from Hetch Hetchy 400 gallons for every man, woman, and child in the city, 350 gallons of it will go down through the sewers unused. They will rip off the power up in the mountains with a 3,500-foot head. It will be a beautiful plant for manufacturing power, but the water will of necessity go down into and through the sewers into the ocean and do nobody any good. Three hundred thousand to three hundred and fifty thousand gallons a day will go that way.

Here is a list of cities with the average rate of consumption for municipal use given as less than 50 gallons a day. There are dozens and dozens of cities all over the world which do not use that much water. They do not use it in London. They do

not use it in Berlin. They do not use that much water in hundreds of cities all over the world.

Here is Brockton, in Massachusetts. In 1904 for manufacturing purposes there was used per capita daily 15.5 gallons, and for domestic use 5 gallons, and in addition to that 3 gallons daily for public use, such as street cleaning, and so forth. Water not accounted for—that is, wasted—13.3 gallons; or, in all, 36.9 gallons a day. That is in Brockton, Mass., in New England, and the people who live up in Massachusetts do bathe occasionally, I am told. It has been intimated here that if a fellow does not get a thousand gallons a day he does not bathe. [Laughter.]

In Boston, which is the center of civilization, if you please, they use for manufacturing 30 gallons a day, for domestic use 30 gallons, 3 gallons for public uses—that is, for washing streets, and so forth—water not accounted for, 32 gallons; total, 95 gallons. San Francisco has 80 gallons now, and she is shy of water for people living on the hills. Why? Because the fellows who are below in the lower levels have leaky pipes or waste water. It would be worth a million dollars to San Francisco if she would hire a good plumber to go around and fix up and meter her service pipes. She has more water now than she can legitimately use. I do not think it is good water. I think the system ought to be changed. I am willing to help her to go to Hetch Hetchy, if no other source of pure water is available, and replace it with good water, but the quantity she asks for is more than she needs.

Here is Cleveland. That is in Ohio. For manufacturing 40 gallons, for domestic use 26 gallons, 10 gallons for public use. That makes 76 gallons. Not accounted for, 20 gallons. Total, 96 gallons. I do not know what kind of water they have in Cleveland. Lake water, I suppose.

Here is Fall River, Mass., which uses for manufacturing 7 gallons, domestic use 15 gallons, public use 5 gallons, not accounted for 8 gallons; total, 36 gallons.

In 1902 there was a total per capita consumption of 40 gallons in Fall River.

The next is Hackensack. That is not complete, but there is a tabulation of 446 gallons for a family—a family of five persons, perhaps. That would be something like 80 or 90 gallons per capita for all purposes.

Hartford, Conn., 3 gallons for manufacturing, 30 gallons for domestic use, 5 gallons for public uses, 24 gallons not accounted for (wasted); total, 62 gallons.

San Francisco has 80 gallons now. We have been told here all the time that San Francisco does not have water enough to use. She has a supply above the average. Her water is impure. I am willing to concede that.

Now, we will take Harrisburg, Pa., in 1904. Manufacturing 81 gallons, domestic 30 gallons, for public uses 5 gallons, water not accounted for 30 gallons, making a total of 146 gallons.

Milwaukee, Wis., in 1904, used 45 gallons for manufacturing and 25 gallons for domestic use. Water for public uses 5 gallons, water not accounted for 14 gallons, a total of 89 gallons.

Mr. SMOOT. And half of it for beer.

Mr. LANE. Probably that is true.

Madison a total of 44 gallons. I will read the totals now.

Syracuse, a total of 108 gallons.

Taunton. In 1904 Taunton had 64 gallons.

Ware, 44 gallons.

Wellesley, 55 gallons.

Woonsocket, 29 gallons.

Worcester, 68 gallons.

Yonkers. Yonkers, in 1904, had 94 gallons.

Bamberg had 15 gallons. That is in Germany.

Berlin had 18 gallons for all uses. You may read them all down the line, and Germany had 13, 14, and 15; Elsenach, Hanover, Rudolstadt, Stralsund, Darmstadt, Gotha, Magdeburg, Mainz, Mannheim, Potsdam, Quedlinburg, Strassburg, Weimar, Worms, 14, 15, 13, 14, 32. The highest in the whole list is 32 gallons per capita for all uses, municipal and otherwise.

With all kindness in our hearts for San Francisco, for I like her people—and before now, at the risk of my political career, I have fought for her—I say she is asking for too much water. It is a power proposition. That is a valuable use of water, and I am willing to concede such a right to San Francisco, but if to secure it she must wipe out the farmers in the San Joaquin Valley, the richest valley on the Pacific coast when watered, and without water a desert, let her be just and pay the farmers for their loss.

No city and no person on that coast or anywhere else has a right to waste any of nature's resources.

The McCloud River, I am informed, has an excessive amount of water. It has more than the Tuolumne River, and it is in a country where they do not need it so badly as they do in the

San Joaquin Valley. I am informed that they would be glad to get rid of some of it.

This question has two sides to it. Rather than see San Francisco go without water I will vote for the bill, but if it can be shown that San Francisco can secure this supply from some other source and do less harm to the people who live in the district from which it is proposed to take the water, I think she ought to be made to do it, in justice and without prejudice and without fear or favor to anyone, if you please. I do not believe we have a right as Members of this Senate to allow ourselves to be whooped into the proposition without digging down into it and ascertaining the facts and then standing upon them and voting for what is right. If anybody can show me that it is proper to go to the Hetch Hetchy, I will vote for Hetch Hetchy and let the park go, and that despite the fact, if you please, that I am chairman of the committee for the preservation of forests. As between the needs of San Francisco and her people and the beauties of Hetch Hetchy, I would wipe out the Hetch Hetchy Valley as quick as the snap of a finger, but I would not give San Francisco the water to run it wastefully through her sewers into the sea while the people over in the San Joaquin Valley need it to raise grain with which to support their families.

Mr. PITTMAN. Mr. President, I realize the sincerity of the Senator from Oregon, and for that reason I want to call to his attention something for his consideration. I do not intend at this time to discuss this matter, because I have given notice that to-morrow I will discuss the bill, but I want to say that the plan of San Francisco for the utilization of this water does not anticipate the bringing of this water to San Francisco on the original plan. The plan, of course, anticipates securing for San Francisco the water on the theory that unless it does so now, when it does need it it will have been appropriated under the laws of California by others.

Mr. LANE. I know, but, Mr. President, we are here appropriating that amount of water. They are filing a claim for 400,000,000 gallons of water a day. Now, you say you do not need it. I know you do not. I am glad to hear you say so. Then, if you do not need it, why not file on that which you do need for a reasonable use and for a reasonable length of time; if you secure a hundred million gallons a day you will have enough to supply your city when she has 2,000,000 inhabitants.

Mr. PITTMAN. I will say that, according to the estimate of the Government engineer, by the beginning of the next century there will be 3,500,000 people who will want that water, and it has been considered wise—whether wise or not I am not going to say—to look that far ahead. They have concluded that it is wise to look that far ahead, and if so it would not be a very excessive amount of water at that time.

I also wish to say to the Senator for his consideration, because I know what he has in mind and that he always wants to consider facts, that pending that time every drop of water which is not conveyed to San Francisco for its beneficial use under the terms of the bill will go down in the same channel to the same farming districts where it goes to-day.

It will not be carried as the surplus water there is carried and thrown away, but it will go down to the same places where it is going now; and it will go there until that population shall have increased to such an extent that it will be demanded for domestic uses.

Mr. LANE. Mr. President, if at the beginning of the next century San Francisco shall have 3,500,000 people, using a greater average of water than the average city of the world, she will only require 175,000,000 gallons per day. In the meantime and until the beginning of the next century let us allow these other people the use of it to irrigate their lands. It ought to be provided in this measure that every drop of water taken shall be utilized. Tie them to that; that is fair. Let San Francisco come here and give assurance through her official representatives that she will use for domestic purposes and for electric lighting purposes, for transmission, for the manufacture of power, as she can, the actual amount of water only which she needs, and we will give it to her, and the people of the upper San Joaquin Valley will have but little complaint to make, for it will not take much water from them.

Mr. PITTMAN. But, if the Senator from Oregon please, that is exactly what must be done under the laws of the State of California, because they have a water commission there on behalf of all the people of California, and they can do that; they can protect that when we can not protect it by any law that we might pass.

Let me call the attention of the Senator to another thing which may not be known to him, that in the utilization of this water power is created between the Hetch Hetchy reservoir and a point on the Tuolumne River before it leaves the Tuolumne River; so that after it has created this power, the portion that

is needed for San Francisco goes through the pipe lines and the other portion continues to flow down the Tuolumne River.

I wish to-morrow, if the Senator will then give me his attention, to try to prove by Government statistics and facts that there is sufficient water in the Tuolumne River, if properly conserved—and it can be conserved more cheaply than it can be conserved in the Hetch Hetchy—to supply more than enough water to irrigate all of that land and yet supply San Francisco with any amount of water that it will ever require.

Mr. LANE. Well, all I have to say in reply to that is that I hope that it is true. If that is done justly, and the waste water from the overflow at the dam is given to these people on reasonable terms, I do not see why there should be any objection to that.

Mr. PITTMAN. They will give it to them for nothing.

Mr. LANE. But we have no assurance from them that that is going to be done; and when we grant them this strip of land, this neck of the gorge, this right of way over our public lands, over the Government lands, which is the key to all that water, they will be up and gone, like a bird that flies free out of the door. There is not nor can be any check on them. After that is done, write it in the bond and present it with your bill, and then we will be in a position to know that we are doing right. That is all I want. I want them to have water from some pure and abundant source of supply.

Mr. PITTMAN. Mr. President, we can not do that; it is not the law; but I am satisfied that the government of the city of San Francisco is as just and honest as any government of the State of Oregon was when the honorable Senator was in charge of one of the biggest municipalities in that State; and I am satisfied that in his government of Portland he was able to protect the people of that municipality from any wrong or waste, and never tried to impose on anyone else in that State. I believe that every State in this Union is able to protect the people within its limits; but this Government has no right to say how the water shall be distributed or controlled.

While this bill has some things in it of that character and kind—and I wish they were not in it—I would not have them there if to eliminate them would not defeat the bill, but would take them out of the bill if we had the right. I want to say that to-day the State of California is protected by one of the best water commissions which any State ever had, and the law of that State is as strict about the waste of water as is that in any other State.

There is no question of one thing, that even though San Francisco be granted the right to build this dam 300 feet high and to impound 400,000,000 gallons of water daily, she will not be allowed to take away any more than is reasonable and just for the benefit of her people, and the water will go back down that valley where it has always gone after it has served its power purposes. We could not protect them any more in this bill than the people of the State of California can protect them by their own laws. I am just as anxious to see those people protected as is the Senator from Oregon. So far as that goes, we are both together on that proposition; we are exactly together on it. It is merely a question of method; we are trying to work it out, and I hope to-morrow to be able to bring facts to the Senator's attention that will convince him that even if San Francisco took 400,000,000 gallons of water daily away from that valley, to-morrow there would still be ample water, if there were a proper conservation, to irrigate all of the lands tributary to that stream.

Mr. LANE. Just a word and then I am through. I would say if they have no better success in protecting public property than I had as mayor of Portland in keeping the coyotes and thieves that were after it from getting away with it, there will be nothing much to boast of. About 33½ per cent of public expenditures get picked off by the way or lost by the unfit and the wasteful.

Mr. SMOOT. Mr. President, I was very much surprised at the statement made by the Senator from Nevada [Mr. PITTMAN] in relation to the waters of the Tuolumne River running down and being sufficient to irrigate all the lands of that valley. Now, Mr. President, I want to say to the Senator that he must know if water runs down the Tuolumne River after that dam is constructed it will be at a time of the year when the farmer will not particularly need the water, because every drop of the natural flow of that river to-day is appropriated. The time when the farmer most wants the water is when the water is the lowest, and then there will be no water running down the Tuolumne River to go into the valley; and if the farmers in that valley can not have water at the time they need it it will do them no good. What good will the water do in the wintertime for the farmers in that valley if it should run down as it has run down in the past? The only time it will do them any good

will be when their crops are being matured and when the quantity of water is at the very lowest.

Mr. PITTMAN. If the Senator please, I presume he was asking a question, and I will try to answer it for him. I want to state that if he has carefully read the bill he knows, as a matter of fact, that the bill does provide that during the very season that the farmers require water for irrigation, and when it is lowest, 4,000 second-feet of water are to be turned down that stream.

Let me say further that the Senator is right, that the flood waters of all those mountain streams come down the river at a time of the year when they are least needed for irrigation. That is absolutely correct. For years and years it has been going to waste, and is going to waste now. For the very reason that there is not a dam sufficient on that river to stop it, it goes out to the sea. If this dam is placed at Hetch Hetchy, it will stop at least a portion of that flood water and keep it from going to the sea, and there will be enough of it turned over the dam to equalize that flow to 2,300 second-feet many days of the year; and they will have opportunity to use up to 4,000 second-feet during those months when they need water, and that, too, during those months in which they do not have the water at the present time, because they have no dam to retain that very flood water. That is the fact about it. The Senator should know that this dam will correct an evil that is existing now; will preserve water that goes to the sea; and will guarantee the farmers a uniform flow just at the season they have not any water at the present time.

Mr. SMOOT. Mr. President, nobody has denied that proposition. I certainly have said nothing that the Senator could construe as even intimating such a thing. Everybody knows that if a dam is put there, it will be put there for the purpose of storing water in the flood times. If it were not for that, the filings of San Francisco would not be worth a five-cent piece, because all of the water in the stream in its regular flow had been appropriated long before San Francisco made a filing upon the stream. The Senator knows that.

I recognize the truth of what the Senator said in relation to water in a reservoir being a saving, just as much as he does. I know that it would be a great benefit; and whatever benefit it may be and whatever filing San Francisco has, whether it be 100,000,000 gallons daily or 200,000,000 gallons daily, they are entitled to and they ought to have, and I never would vote to take it away from them; but I do not want to say by any vote of ours that San Francisco can have 400,000,000 gallons of water if she does not want to use it within a reasonable time and stop every citizen of the United States from filing on the waters that have not already been filed on.

Mr. NORRIS. Mr. President—

The VICE PRESIDENT. Does the Senator from Utah yield to the Senator from Nebraska?

Mr. SMOOT. I was merely answering the Senator from Nevada.

Mr. PITTMAN. I yield the floor, if I have it.

The VICE PRESIDENT. The Senator from Nebraska is recognized.

Mr. NORRIS. Mr. President, I want to call the attention of the Senator from Oregon [Mr. LANE], if he has not left the Chamber, to what I believe is an answer to his question. It is in the bill itself, and I think it would be well also for the Senator from Utah [Mr. SMOOT] to consider it, in view of what he has said. I am informed that the Senator from Oregon is not here, but I will read it into the RECORD. I believe it answers the dilemma in which the Senator seems to be. It is found on page 17 of the bill, subdivision (h); and I also call the attention of the Senator from Utah to it:

(h) That the said grantee—

That means San Francisco—

(h) That the said grantee shall not divert beyond the limits of the San Joaquin Valley any more of the waters from the Tuolumne watershed than, together with the waters which it now has or may hereafter acquire, shall be necessary for its beneficial use for domestic and other municipal purposes.

Mr. SMOOT. The language "and other municipal purposes" covers all purposes.

Mr. NORRIS. Does not that cover the proposition?

Mr. SMOOT. Yes; it covers not only the domestic but all other purposes.

Mr. NORRIS. I think that would be for washing streets and such other purposes as a city usually uses water for.

Mr. SMOOT. No; that is not what that means; that is not what San Francisco wants, and that is not what San Francisco expects.

Mr. NORRIS. Does the Senator say that that is not what it means? I want to assert that it is. That is what it is intended to mean, and I believe that is what it does mean. I am only giving my belief as to that.

Mr. LANE entered the Chamber.

Mr. NORRIS. I want to read the provision again for the benefit of the Senator from Oregon:

(h) That the said grantee shall not divert beyond the limits of the San Joaquin Valley any more of the waters from the Tuolumne watershed than, together with the waters which it now has or may hereafter acquire, shall be necessary for its beneficial use for domestic and other municipal purposes.

Mr. LANE. Mr. President, in answer to that, I would say that when we picked up a grant for a water right which some sharp fellows had staked ahead of the city, all the right they would grant us was for municipal domestic use—none for other purposes, none for manufacturing of "juice."

Mr. NORRIS. Oh, no; this provision does not cover that.

Mr. LANE. Oh, yes; it covers that, in my opinion.

Mr. NORRIS. In my opinion, the "juice" of which the Senator speaks will all be manufactured before the water gets into the city. There is no intention of having electric power manufactured in the city of San Francisco proper. There is no such thing in contemplation.

Mr. LANE. It takes more water to manufacture electricity for municipal use than it takes to supply domestic use. It takes a bigger head; it takes—

Mr. NORRIS. But there is no idea of manufacturing electricity in the city.

Mr. LANE. No; it is manufactured at the headgates.

Mr. NORRIS. The Senator will notice that this subdivision provides that they shall not take any more water away from that particular valley, which he says ought to have the water, than they can use beneficially for municipal purposes.

Mr. SMOOT. But they make take it away from the reservoir for the purpose of creating power, and it will never get back into that reservoir.

Mr. NORRIS. No; that is not what it says, as the Senator will notice if he will read it again—

That the said grantee shall not divert beyond the limits of the San Joaquin Valley—

That is where the land is located which you want to irrigate—

That the said grantee shall not divert beyond the limits of the San Joaquin Valley any more of the waters * * * than * * * shall be necessary for its beneficial use for domestic and other municipal purposes.

Mr. SMOOT. "And other purposes."

Mr. NORRIS. No; "other municipal purposes."

Mr. SMOOT. And that will be for the creation of power for the municipality.

Mr. NORRIS. The Senator certainly does not mean that.

Mr. SMOOT. Certainly I do.

Mr. NORRIS. The Senator knows that the power is going to be developed before it reaches the city. If this bill passes, there will be no electric-power plant within the city limits of San Francisco. Nobody contemplates such a thing and nobody has ever suggested such a thing.

No opponent of this bill, so far as I know, has ever made the charge that when they get the water down there they will use it for such a purpose. If they did the Senator does not believe that it would be permissible under the laws of California. The power is going to be developed before it gets anywhere near the city. Most of it will be developed before it gets to the San Joaquin Valley.

Mr. SMOOT. Mr. President, I do not think there ought to be any misunderstanding about this matter. The Senator himself, I think, will admit that the principal object of this bill is to provide for the creation of power, and the power can not be created unless the water goes through the water wheel—

Mr. NORRIS. The Senator is not answering the proposition.

Mr. SMOOT. And when the water passes through the dam site, through the wheels, and creates the power it will never go back again.

Mr. NORRIS. I want to say to the Senator that he is entirely mistaken. Most of that power will be developed before it reaches the San Joaquin Valley. The water that will go to the irrigationists will have created power before it gets to their ditches.

Mr. SMOOT. Anybody knows that the power has to be created right where the fall is. You must have a fall.

Mr. NORRIS. Then, the Senator ought not try to make the Senate believe that it is going to be created in the city limits of San Francisco.

Mr. SMOOT. The Senator has never said any such thing, and never had any such idea.

Mr. NORRIS. Did not the Senator say, in regard to municipal purposes for the city, that it was to make "juice"—to make electricity?

Mr. SMOOT. I never used the word "juice" at any time. I never designate electricity by the word "juice." Mr. President, I simply say that if the Senator's position is right, then

San Francisco would be building the dam site there for the purpose of taking out only sufficient water for domestic purposes, and that only to the amount the people of San Francisco and the surrounding cities may use. Does the Senator believe that that is true?

Mr. NORRIS. Out of the dam?

Mr. SMOOT. Yes.

Mr. NORRIS. No; I do not believe it is true. I never said it was. Nobody has claimed it. Why, that dam is a great many miles from the San Joaquin Valley, where they want to use the water for irrigation purposes. Before the water gets to that valley it will have gone through the water wheel and will have created the power, and the water will go on to the land, and the power on to wherever it is going to be used.

Mr. KERN. Mr. President, for reasons which I shall state presently, I have no purpose of discussing the merits of this controversy.

During the session last night, when a letter from Hon. DENVER S. CHURCH, Member of Congress from California, was read, in which he announced his opposition to the pending Hetch Hetchy bill, I expressed some surprise that Mr. CHURCH should have changed his views on the question at this late date; and I inquired of the junior Senator from California [Mr. WORKS] if he had any information as to the mental processes of that gentleman in reaching a conclusion so at variance with his former views, as expressed on the floor of the House. The change in his attitude was so out of the ordinary that it challenged my attention.

The Senator from California, expressing the highest opinion of the standing and integrity of Mr. CHURCH, in which I fully concur, stated his belief to be that Mr. CHURCH had changed his attitude because of an honest effort on his part to reflect here the views of his constituents, which had also changed, and an earnest desire faithfully to represent them.

Since the colloquy referred to I have talked with Congressman CHURCH; and if I had entertained the slightest doubt of his entire good faith, the sincerity of his purpose, or the patriotism of his action, such doubt would have been instantly dispelled by his own frank statement of the reasons which have prompted his action.

He came to Congress with the firm conviction that all the waters of the watershed of the Tuolumne River, including storage facilities, should be reserved for the exclusive use of the owners of the irrigable lands of the San Joaquin Valley. Accordingly he was opposing the Raker bill, when several gentlemen of prominence—men of high character and standing—came to Washington as a committee especially representing the irrigationists of the Modesto and Turlock irrigation districts.

Mr. CHURCH naturally was pleased that these men, representing so largely the people of his district, should come here to second his efforts in their behalf; and, working together, all proceeded to the task of protecting the interests of the people of the San Joaquin Valley.

Early in the contest here in Washington this committee was induced to go into conference with those representing the interests of San Francisco for the purpose of determining whether a measure could be drafted and agreed upon which would give to San Francisco a water supply and at the same time fully protect the interests of the water users of the irrigation districts and of the San Joaquin Valley generally. As a result of this conference there was an agreement between the respective parties, the terms of which are substantially embodied in the pending bill.

The committee representing the water users reported to Mr. CHURCH that all the rights of his constituents had been fully safeguarded, and that the bill as then agreed upon contained every provision necessary for the full protection of all his people.

Mr. CHURCH relied upon the representations of these men. He believed in them, as he had a right to believe in them. They were special representatives of the people of the San Joaquin Valley and held a commission bearing a later date than the one held by him. It transpired subsequently, however, that they had been overreached in the conference, at least in the opinion of the people back home, as ascertained at a later date. But Mr. CHURCH had no reason for suspecting the good faith of these representatives of the people or doubting the wisdom of their action. So when they solicited his support of the Raker bill it was but natural that he should accommodate himself to the desires of his constituents, for whom they had a right to speak.

But, as already suggested, as time went on and after the people affected by this proposed legislation had opportunity to study its provisions, the belief became widespread that their interests had not been properly guarded, and that their interests

would be seriously imperiled by the passage of the proposed measure.

This feeling continued to grow, until there came to be a well-nigh unanimous belief amongst the people of the San Joaquin Valley that enactment of the Raker bill would mean the destruction of property values in that region and the utter ruin of many of its people. So, almost as one man, they arose and demanded of their Representative that he stand by their interests, even though that action should involve a charge of inconsistency against him.

Mr. CHURCH received hundreds of communications to this effect, a few of which he has handed me, which, in justice to him, I take pleasure in reading. This is one of the later ones:

MODESTO, CAL., December 4, 1913.

Congressman DENVER S. CHURCH,

House of Representatives, Washington, D. C.:

Sentiment here is unanimous against the Raker or any bill having for its object the taking of any water out of the valley. The sentiment is radical. To protect yourself from attacks that are being made here against you and for your future protection better place yourself at the services of local committee now in Washington. You can square matters with House committee by saying political suicide not to change now. FERRIS and other committee men will appreciate your position. Telegrams here from committee that you alone stand in way of their success in defeating Raker bill. Protect yourself in this matter.

MODESTO EVENING NEWS,
By E. L. SHERMAN, Editor.

T. J. WISECARVER,

Chairman Democratic County Central Committee.

Here is another:

MODESTO, CAL., December 3, 1913.

Congressman DENVER S. CHURCH,

Washington, D. C.:

Be it resolved, That the president of the board of directors of the Modesto irrigation district be directed to wire Congressman CHURCH, at Washington, D. C., to oppose the passage of the Raker bill and to use all means in his power to defeat the passage of the same and also to oppose any other measure having for its object the giving to the city and county of San Francisco reservoir sites in the Hetch Hetchy Valley.

J. B. TRASK,
President Board of Directors.

Another one of the telegrams is as follows:

TURLOCK, CAL., December 4, 1913.

Congressman DENVER S. CHURCH,

Washington, D. C.:

Water users here request you to cooperate with our committee there and to do all in your power to defeat the Raker bill. The following telegram sent to Mayor Rolph by the Turlock irrigation board: "There has been great change in public sentiment here since our committee returned from Washington. People here generally agitated and are now strenuously opposing all acts providing for taking any water from San Joaquin Valley."

E. J. CADWALLADER.

Another is as follows:

MODESTO, CAL., December 3, 1913.

DENVER S. CHURCH,
Washington, D. C.:

Unanimous vote of Hickman Board of Trade against Raker bill or any bill allowing Hetch Hetchy water for any but irrigation purposes. Shall expect you to use every effort in your power to defeat Raker bill and protect irrigators in Turlock irrigation district.

HICKMAN BOARD OF TRADE,
F. C. HALDEMAN, President.

One more:

SAN FRANCISCO, CAL., December 3, 1913.

HON. DENVER S. CHURCH,
Washington, D. C.:

Have written all Senators for water problem association. Please see letter to KERN and other Democratic leaders, and assure them of our sincerity. Facts vital to valley's development deserve serious consideration. Better settle Hetch Hetchy question right than quickly. Appreciate your position. Additional information justifies revised judgment.

A. L. COWELL.

In the face of such a public sentiment as is here indicated, what was Mr. CHURCH to do. Should he, because of the opinion originally expressed under a misapprehension of facts, and especially of public sentiment, blindly cling to that opinion and close his ears to the appeals of his constituents? He chose the wiser part, and, remembering that he is a mere servant of the people of the San Joaquin Valley, hearkened to their voice, and boldly proclaimed his allegiance to them and his devotion to their interests.

Mr. President, I have not yet fully made up my mind as to the merits of this controversy, and shall not do so until the arguments are concluded. I have, however, made up my mind as to the good intentions and patriotic purposes of Representative CHURCH, and do not hesitate to commend him for his fidelity to duty and the readiness with which he has responded to the desires of the people whom he has been elected to serve.

Mr. President, I now move that the Senate adjourn. The hour of meeting has been already fixed at 10 o'clock to-morrow morning.

The motion was agreed to; and (at 11 o'clock p. m.) the Senate adjourned until to-morrow, Saturday, December 6, 1913, at 10 o'clock a. m.